WEB-MANAGED GIGABIT ETHERNET SWITCH

WITH 4 SFP PORTS

USER MANUAL

MODELS 560801 & 560818

Model 560801, 16-Port

Model 560818, 24-Port

INTELLINET
NETWORK SOLUTIONS

INT-560801/560818-UM-1112-01

FCC Certifications

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.

CE Warning

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022 class A for ITE, the essential protection requirement of Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Trademarks:
All trade names and trademarks are the properties of their respective companies.

Table of Contents

Chapter 1 Introduction ····· 6
1.1 General Description ····· 6
1.2 The Front Panel ····· 7
1.3 LEDs Definition ····· 7
1.4 The Rear Panel ····· 7
1.5 Installation ····· 9
Chapter 2 Basic Web Management Information ····· 11
2.1 System login ····· 11
2.2 The Graphic User Interface ····· 12
2.3 Logging Out of the Web Configurator ····· 16
Chapter 3 Web Management Configuration ····· 17
3.1 Status ····· 17
3.1.1 System Information ····· 17
3.1.2 Log ····· 19
3.1.3 Port ····· 21
3.1.3.1 Port Statistics ····· 21
3.1.3.2 Port Counters ····· 22
3.1.3.3 Port Error Disabled ····· 24
3.1.3.4 Bandwidth Utilization ····· 24
3.1.4 Trunk Group ····· 25
3.1.5 MAC Address Table ····· 26
3.1.5.1 Dynamic Learned ····· 26
3.1.5.2 Static MAC ····· 27
3.2 Network ····· 28
3.2.1 IP Address ····· 28
3.2.2 IPv6 Address ····· 30
3.2.3 Time ····· 31
3.3 Switching ····· 32
3.3.1 Port Setting ····· 32
3.3.2 Port Mirroring ····· 33
3.3.3 Trunk ····· 34
3.3.3.1 Trunk Group ····· 34
3.3.3.2 LACP ····· 36
3.3.4 VLAN ····· 37
3.3.4.1 VLAN Setting ····· 37

3.3.4.2 VLAN Port Setting ····· 38
3.3.4.3 VLAN Port Mode Setting ····· 39
3.3.4.4 VLAN Ingress Filter ····· 40
3.3.5 SVLAN ····· 40
3.3.5.1 SVLAN Setting ····· 40
3.3.5.2 SVLAN Member Setting ····· 41
3.3.5.3 SVLAN PVID Setting ····· 42
3.3.5.4 SVLAN Service Port ····· 42
3.3.6 Bandwidth Control ····· 43
3.3.6.1 Preamble Setting ····· 43
3.3.6.2 Port Rate Setting ····· 44
3.3.7 IGMP Snooping ····· 46
3.3.7.1 IGMP Setting ····· 46
3.3.7.2 IGMP VLAN Setting ····· 47
3.3.7.3 Multicast Database ····· 48
3.3.7.4 Router Table ····· 49
3.3.8 Jumbo Frame ····· 49
3.3.9 STP ····· 50
3.3.9.1 STP Global Setting ····· 50
3.3.9.2 STP Port Setting ····· 52
3.3.9.3 MST Configuration ····· 53
3.3.9.4 MST Instance Setting ····· 55
3.3.9.5 MST Port Setting ····· 55
3.4 Security ····· 57
3.4.1 Storm Control ····· 57
3.4.2 MAC Filtering ····· 58
3.4.3 802.1X ····· 59
3.4.3.1 802.1X Setting ····· 59
3.4.3.2 802.1X Port Setting ····· 61
3.4.4 Port Security ····· 62
3.4.5 Protected Ports ····· 63
3.4.6 Access ····· 63
3.4.6.1 Console ····· 63
3.4.6.2 Telnet ····· 64
3.4.6.3 SSH ····· 65
3.4.6.4 HTTP ····· 66
3.4.6.5 HTTPS ····· 66
3.5 ACL ····· 67
3.5.1 ACL Setting ····· 67

3.5.2 ACL Template Setting ····· 70
3.5.3 ACL Index Range Setting ····· 71
3.5.4 ACL Policy Setting ····· 72
3.6 QoS ····· 72
3.6.1 Port-based Priority ····· 72
3.6.2 802.1 p- based Priority ····· 73
3.6.3 DSCP - based Priority ····· 74
3.6.4 Priority to Queue Mapping ····· 75
3.6.5 Packet Scheduling ····· 77
3.6.6 Queue Weight Setting ····· 77
3.6.7 Queue Remarking Status ····· 78
3.6.8 Queue Remarking Table ····· 79
3.7 Management ····· 80
3.7.1 SNMP ····· 80
3.7.1.1 SNMP Setting ····· 80
3.7.1.2 SNMP Community ····· 81
3.7.1.3 SNMP Trap ····· 82
3.8 Diagnostics ····· 83
3.8.1 Ping Test ····· 83
3.8.2 Ping6 Test ····· 84
3.8.3 Log Setting ····· 85
3.8.3.1 Local Log ····· 85
3.8.3.2 Remote Log ····· 86
3.8.4 Factory Default ····· 87
3.8.5 Reboot Switch ····· 88
3.9 Maintenance ····· 88
3.9.1 Backup Manager ····· 88
3.9.2 Upgrade Manager ····· 90
3.9.3 Configuration Manager ····· 91
3.9.4 Account Manager ····· 92
3.9.5 Enable Password ····· 93
Product Specifications ····· 95

Chapter 1 Introduction

1.1 General Description

High Performance

This 16/24 + 4 Layer 2 Gigabit Switch is a high-performance SNMP-managed device that provides users with 16 or 24 10/100/1000 Mbps Ethernet and four additional Gigabit SFP ports. The Web/SNMP management provides remote control capability, providing flexible network management and monitoring options. Whether managed through an "in-band" SNMP management station or an Internet Web browser, the Intellinet Gigabit switch facilitates network management and problem diagnosis.

Flexible Network Management

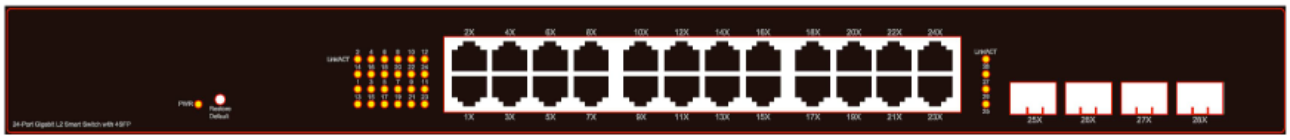
The switch is easy to use and manage, designed to increase business productivity by reliably supporting business applications. It features a Web-based GUI and supports SNMP, RMON and Telnet. The impressive list of features includes, but is not limited to, ACL management, sophisticated QoS-related settings, port mirroring, integrated IP-connectivity tools, logging, MAC filtering, RADIUS authentication, port aggregation and detailed port rate configuration options.

Eliminate Bottlenecks

This switch offers plenty of performance for your computers, servers and other networking devices. In addition, four small form-factor pluggable GBIC module slots (SFP) provide fiber connectivity for greater distances. These are not shared combo-ports, but true Gigabit ports, pushing the total available bandwidth up to 40 Gbps for Model 560801 and 56 Gbps for Model 560818.

1.2 The Front Panel

The following figure shows the front panel of the switch.



The following table describes the port labels on the front panel.

LABEL	DESCRIPTON
16 / 24 10/100 RJ-45 Ethernet Ports	Connect these ports to a computer, a hub, an Ethernet switch or router
Four Mini-GBIC Slots:	Use mini-GBIC transceivers in these slots for connections to backbone Ethernet switches.

1.3 LEDs Definition

This device provides a full complement of LEDs to indicate the status of power, system functions and ports. See the following description for reference:

LED	Status	Operation
Power	Steady Green	The switch is powered on.
	Off	The switch is powered off.
Link/ACT	Steady Green	Valid port connection.
	Blinking Green	Valid port connection and there is data transmitting/ receiving.
	Off	Port disconnected.

The Restore Defaults (Reset) Button

Reset the switch to its factory default configuration using the Restore Defaults (Reset) button on the front panel. Press the recessed button for one second and release. The switch automatically reboots and reloads its factory configuration file.

1.4 The Rear Panel

The following figure shows the rear panel of the switch:

Power Receptacle

To be compatible with the electric service standards around the world, the switch is designed to

afford the power supply in the range from 100 to 240 VAC, 50/60 Hz. Make sure that your outlet standard is within this range.

To power on the switch, plug the female end of the power cord firmly into the receptacle of the switch and the other end into an electric service outlet. After the power cord installation, confirm that the power LED is lit indicating normal power status.

1.5 Installation

This switch can be placed on your desktop or another flat surface or mounted in a rack. Refer to the instructions for installation.

Before operating the switch, it's recommended that:

1. The switch is placed within an appropriate ventilation environment. A minimum of 25 mm of space around the unit is recommended.
2. The switch and the relevant components are away from sources of electrical noise such as radios, transmitters and broadband amplifiers.
3. The switch is not placed in an excessively moist or humid environment.

Desktop Installation

1. Install the switch on a level surface that can support the weight of the unit and the relevant components.
2. Connect the switch to the female end of the provided power cord and plug the male end into the power outlet.

Rackmount Installation

The switch may be standalone or mounted in a rack. Rackmounting allows a more orderly installation when you are going to install a series of networking devices.

Procedures for rackmounting the switch:

1. Disconnect all the cables from the switch.
2. Place the unit on a hard, flat surface with the front facing you.
3. Position a mounting bracket over the mounting holes on one side of the unit.
4. Insert the screws and fully tighten with a suitable screwdriver.
5. Repeat the two previous steps for the other side of the unit.
6. Insert the unit into the rack and secure with suitable screws.
7. Reconnect all the cables.

Installing Network Cables

1. Crossover or straight-through cable: All the ports on the switch support Auto-MDI/MDI-X functionality. Both straight-through or crossover cables can be used as the media to connect the switch with PCs as well as other devices like switches, hubs or routers.

2. Category 3, 4, 5 or 5e, 6 UTP/STP cable: To make a valid connection and obtain the optimal performance, an appropriate cable that corresponds to different transmitting/receiving speeds is required. To choose a suitable cable, refer to the following table.

Media	Speed	Wiring
10/100/1000 Mbps copper	10 Mbps	Category 3,4,5 UTP/STP
	100 Mbps	Category 5 UTP/STP
	1000 Mbps	Category 5e, 6 UTP/STP
1000 Mbps Fiber (mini-GBIC required)	1000 Mbps	The cable type differs from the mini-GBIC you choose. Refer to the instructions that came with your mini-GBIC.

Chapter 2 Basic Web Management Information

2.1 System login

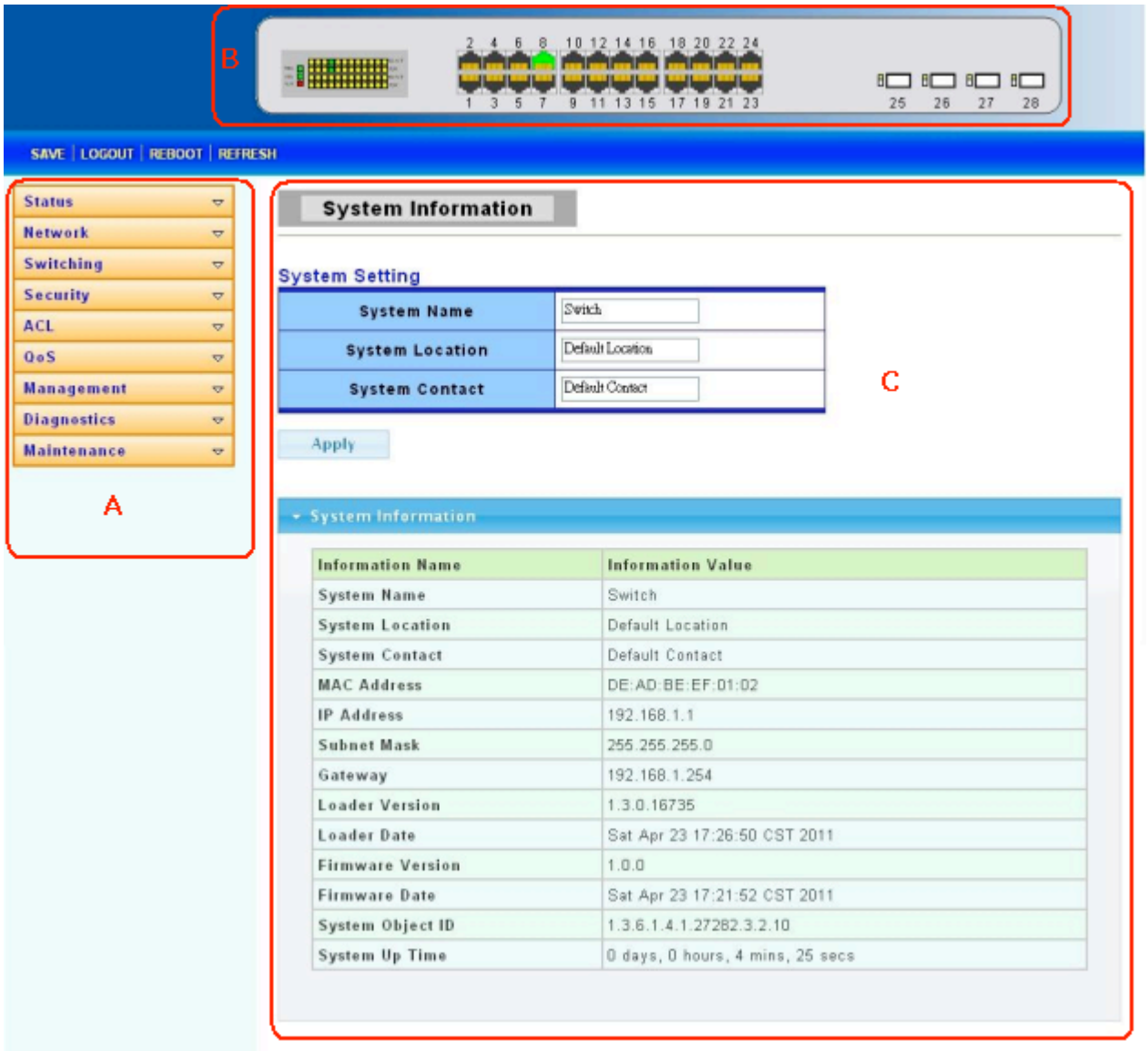
1. Start your Web browser.
2. Type “http:///”and the IP address of the switch (for example, the default management IP address is 192.168.2.1) in the Location or Address field. Press **[ENTER]**.

3. The login screen appears. The default username is “admin” and the password is “1234.”

Connect to 192.168.2.1
The server 192.168.2.1 requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).
User name:
admin
Password:
1234
Remember my password
OK
Cancel

2.2 The Graphic User Interface

After the password authorization, the information page shows up. You may click on each folder on the left column of each page to get access to each configuration page. The Graphic User Interface is as follows:

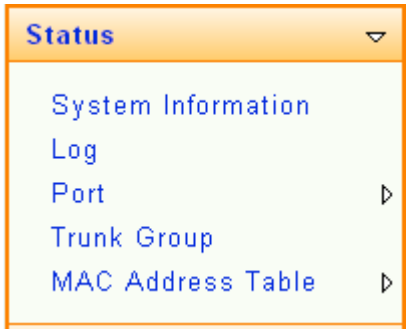
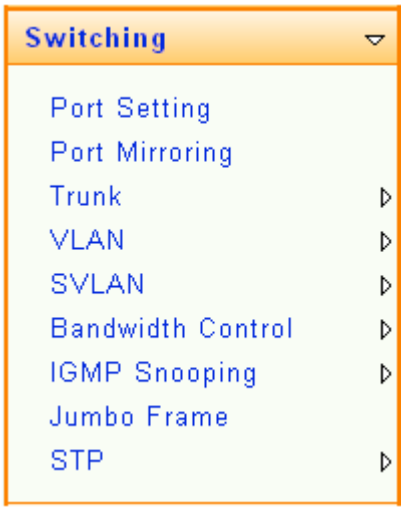
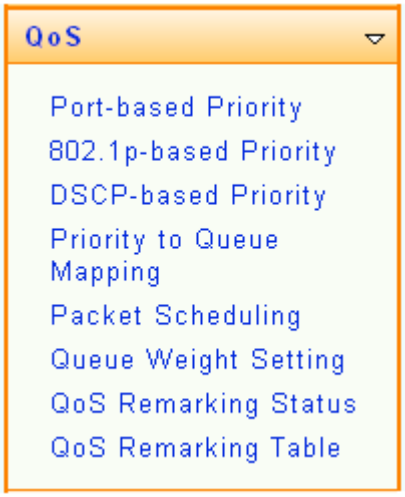
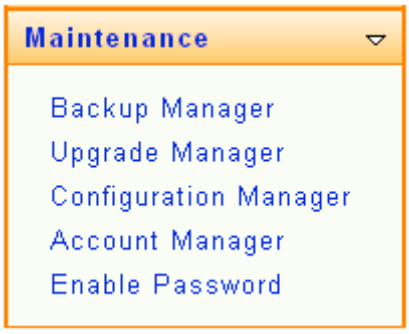


A – Click the menu items to open submenu links, and then click on a submenu link to open the screen in the main window.

B – It shows the switch's current link status. Green squares indicate the port link is up, while black squares indicate the port link is down.

C – Displays system information such as MAC address and firmware version.

In the navigation panel, click a main link to reveal a list of submenu links shown as the following:

Status	Network	Switching
		
Security	**ACL**	**QoS**
		
Management	**Diagnostics**	**Maintenance**
		

The following table describes the links in the navigation panel.

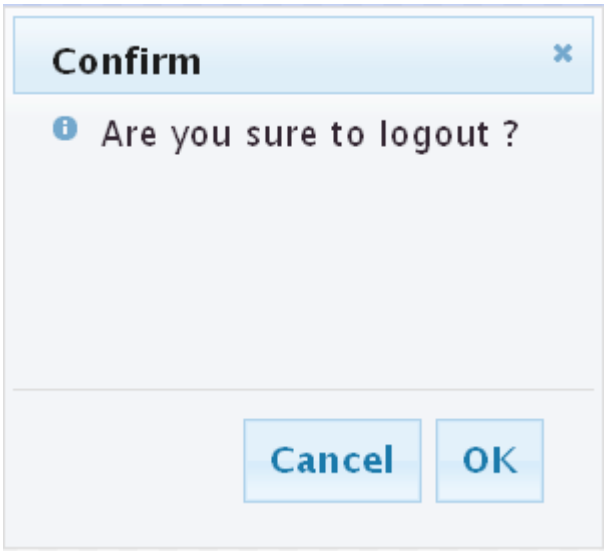
LINKS	DESCRIPTION
Status	
System Information	This link takes you to a screen that displays general system information.
Log	This sub-menu takes you to screens where you can view and set up system logs.
Port	This link takes you to a screen where you can configure the port information.
Trunk Group	This link takes you to a screen where you can configure the trunk settings on a port.
MAC Address Table	This link takes you to screens where you can configure MAC address options.
Network	
IP Address	This link takes you to a screen where you can configure the IP information.
IPv6 Address	This link takes you to a screen where you can configure the IPv6 information.
Time	This link takes you to a screen where you can configure the switch's time settings.
Switching	
Port Setting	This link takes you to a screen where you can configure settings for individual switch ports.
Port Mirroring	This sub-menu takes you to screens where you can copy traffic from one port or ports to another port in order that you can examine the traffic from the first port without interference.
Trunk	This link takes you to a screen where you can configure the trunk settings on a port.
VLAN	This link takes you to a screen where you can configure the VLAN (IEEE 802.1Q) settings on a port.
SVLAN	This link takes you to a screen where you can configure the SVLAN settings on a port.
Bandwidth Control	This link takes you to a screen where you can configure bandwidth limits on the switch.
IGMP Snooping	This sub-menu takes you to screens where you can configure and revising the information of IGMP Snooping.
Jumbo Frame	This link takes you to a screen where you can configure the

	Jumbo Frame size.
STP	This sub-menu takes you to screens where you can configure the STP to prevent network loops.
Security	
Storm Control	This link takes you to a screen where you can limit the number of broadcast, multicast and unknown unicast and multicast packets the Switch receives per second on the ports.
MAC Filtering	This sub-menu takes you to screens where you can configure the accessed MAC address.
802.1X	This sub-menu takes you to screens where you can configure IEEE 802.1x port authentication for clients communicating via the switch.
Port Security	This link takes you to a screen where you can configure the port security setting.
Protected Ports	This link takes you to a screen to setting and revising the protected ports.
Access	This link takes you a way to access the switch.
ACL	
ACL Setting	This link takes you to a screen to setting and revising the basic setting of ASL.
ACL Template Setting	This link takes you to a screen to setting and revising the template setting of ASL.
ACL Index Range Setting	This link takes you to a screen to setting and revising the index range setting of ASL.
ACL Policy Setting	This link takes you to a screen to setting and revising the policy setting of ASL.
QoS	
Port-based Priority	This link takes you to a screen where you can assign a IEEE 802.1p priority to packets based on the ingress (incoming) port of the packet.
802.1p-based Priority	This link takes you to a screen where you can assign a IEEE 802.1p-based priority to packets based on the ingress (incoming) port of the packet.
DSCP-based Priority	This link takes you to a screen where you can assign priority to packets based on their Differentiated Services Code Points (DSCPs).
Priority to Queue Mapping	This link takes you to a screen where you can configure the priority level-to-physical queue mapping.
Packet Scheduling	Packet Scheduling is used to help solve performance degradation when there is network congestion. Use this screen to configure queuing algorithms for outgoing traffic.
Queue Weight Setting	This link takes you to a screen where you can assign a queue weight to packets based on the ingress (incoming) port of the packet.

QoS Remarking Status	This link takes you to a screen where you can assign a QoS remarking status to packets based on the ingress (incoming) port of the packet.
QoS Remarking Table	This link takes you to a screen where you can assign a QoS remarking table to packets based on the ingress (incoming) port of the packet.
Management	
SNMP	This link takes you to a screen where you can set and revise the SNMP.
Diagnostics	
Ping Test	This link takes you to a screen where you can do Ping test.
Ping6 Test	This link takes you to a screen where you can do Ping6 test.
Log Setting	This link takes you to a screen where you can configure log settings.
Factory Default	This link takes you back to the factory default configuration.
Reboot Switch	This link takes you to a screen where you can reboot the switch.
Maintenance	
Backup Manager	This link takes you to a screen where you can back up the settings you have made.
Upgrade Manager	This link takes you to a screen where you can upgrade the switch settings.
Configuration Manager	This link takes you to a screen where you can save all the configurations you have made to the switch.
Account Manager	This link takes you to a screen where you can change the Web configurator login account.
Enable Password	This link takes you to a screen where you can change the login password.

2.3 Logging Out of the Web Configurator

Click **Logout** in the navigation panel to exit the Web configurator. You have to log in with your password again after you log out. This is recommended after you finish a management session for security reasons.


Confirm
Are you sure to logout ?
Cancel
OK

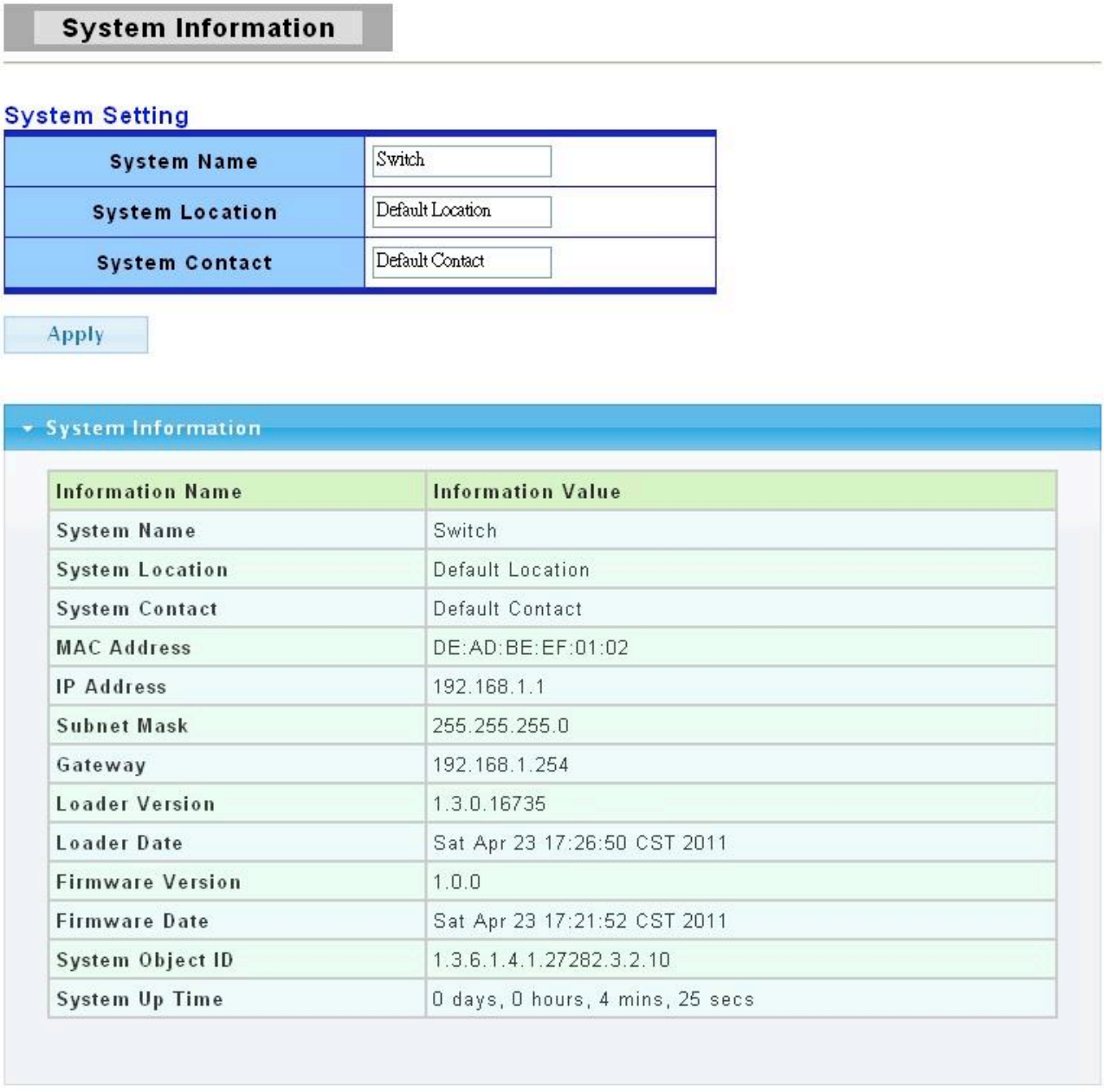
Chapter 3 Web Management Configuration

3.1 Status

Use the Status pages to view system information and status.

3.1.1 System Information

In the navigation panel, click **Status** > **System Information** to display the screen as shown below. This page allow user to configure and browse some system information such as MAC address, IP address, loader version and firmware version.



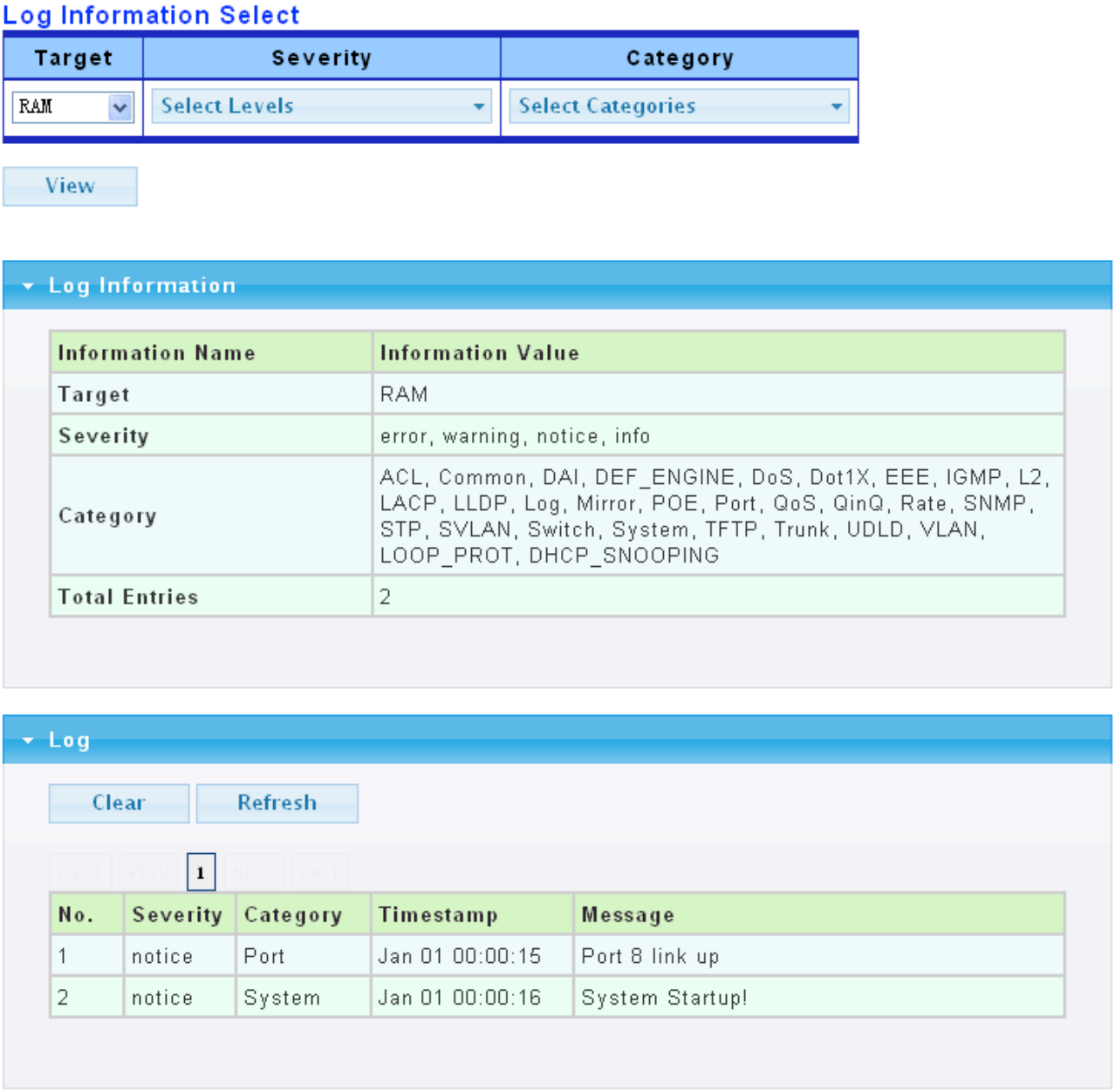
The following table describes the labels on this screen.

LABEL	DESCRIPTION
System Name	This field displays the descriptive name of the switch for identification purposes.
System Location	This field displays the system location of the switch.
System Contact	This field displays the system contact of the switch.
MAC Address	This field refers to the Ethernet MAC (Media Access Control) address of the switch.
IP Address	This field displays the IP address of the switch.
Subnet Mask	This field displays the subnet mask of the switch.
Gateway	This field displays the IP address of the gateway.
Loader Version	This field displays the loader version of the switch.
Loader Date	This field displays the loader date of the switch.
Firmware Version	This field displays the version number of the switch's current firmware.
Firmware Date	This field displays the switch's firmware created date.
System Object ID	This field displays the system object ID of the switch.
System Up Time	This field displays the system up time.

3.1.2 Log

Use this screen to display the switch logs. Click **Status** > **Log** in the navigation panel to display the screen shown below.

Log



The following table describes the labels on this screen.

LABEL	DESCRIPTION
Target	Select **RAM** to display only the logs stored in the RAM. Select **Flash** to display only the logs stored in the Flash memory.
Severity	Select severity level(s) to filter log messages. The possible severity levels are: · **Error** - to record system failures, such as events which will cause the switch to malfunction and events such as invalid user input in the Web configurator. · **Warning** - to record non-critical errors on the Switch. The Switch will continue to function when warnings are recorded. · **Info** - to record regular system events, such as configuration changes or logins.

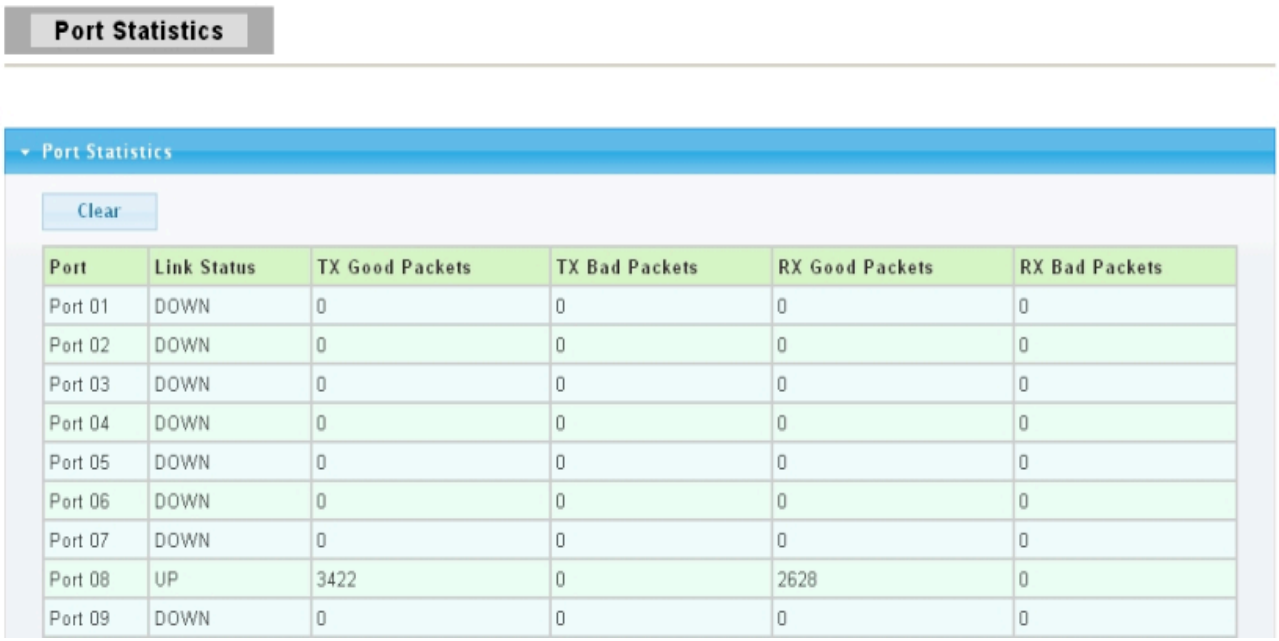
	· **Notice**- to record the error that needs attention.
Category	Select Category to filter log messages. The categories are based on software and hardware features of the switch. For example, the category **MIRROR** records events which deal with the Port Mirroring features you set up and the category **SYSTEM** records events which deal with the overall operation of the switch.
View	Click the View button to display the logs according the criteria specified in the fields above.
No.	This is the index number for the log entry.
Severity	This field displays the severity level of the log entry.
Category	This field displays what category the log entry fits into.
Timestamp	This field specifies the time when the switch recorded the log event. The switch resets its internal clock when it is restarted.
Message	This field displays an explanation for the log entry.

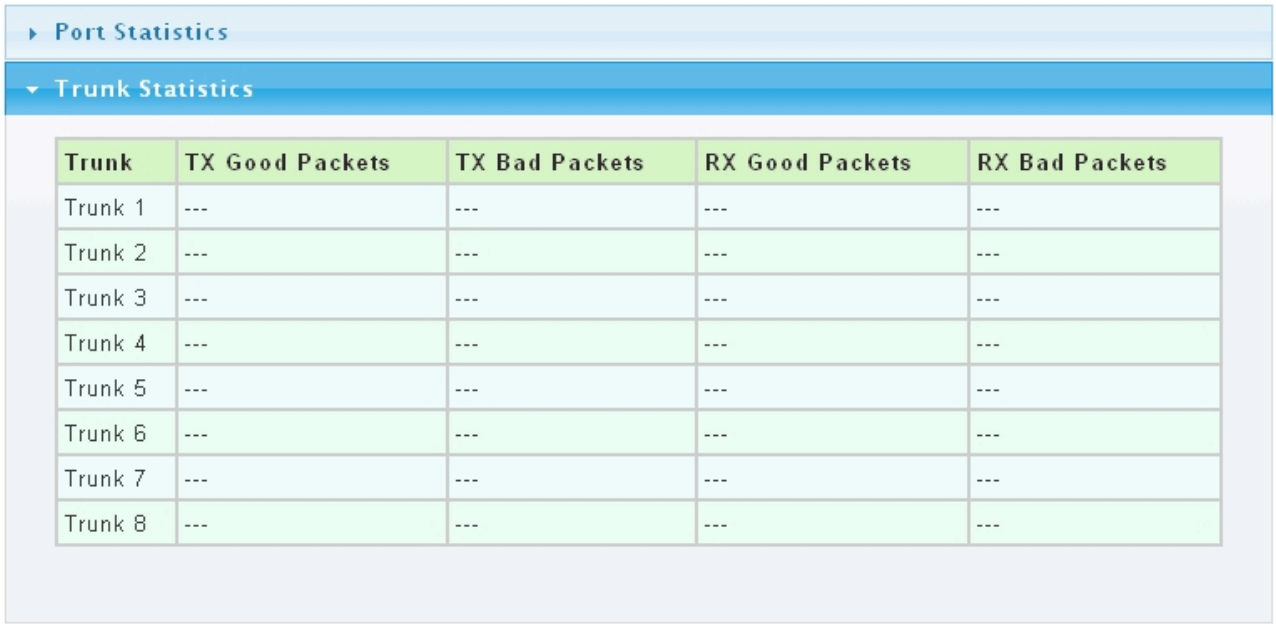
3.1.3 Port

The Port configuration page displays port summary and status information.

3.1.3.1 Port Statistics

Use this screen to display the Switch port statistics. Click **Status**->**Port** > **Port Statistics** to view the screen shown below.


Port Statistics
Port Statistics
Clear
Port
Link Status
TX Good Packets
TX Bad Packets
RX Good Packets
RX Bad Packets
Port 01 DOWN 0 0 0 0
Port 02 DOWN 0 0 0 0
Port 03 DOWN 0 0 0 0
Port 04 DOWN 0 0 0 0
Port 05 DOWN 0 0 0 0
Port 06 DOWN 0 0 0 0
Port 07 DOWN 0 0 0 0
Port 08 UP 3422 0 2628 0
Port 09 DOWN 0 0 0 0



The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port	This identifies the Ethernet port.
Link Status	This field displays **Link Up** if the port is currently in use. Otherwise it displays **Link Down**.
Tx Good Pkt	This field shows the number of frames successfully transmitted on this port.
Tx Bad Pkt	This field shows the number of frames unsuccessfully transmitted on this port.
Rx Good Pkt	This field shows the number of frames successfully received on this port.
Rx Bad Pkt	This field shows the number of frames unsuccessfully received on this port.
Clear	Click the **Clear** button to reset the port statistics.

3.1.3.2 Port Counters

Click **Status**->**Port** > **Port Counters** to view the screen shown below.

This page displays standard counters on network traffic from the Interface, Etherlike and RMON MIB. Interface and Etherlike counters display errors on the traffic passing through each port. RMON counters provide a total count of different frame types and sizes passing through each port.

Port Counters

Port MIB Counters Settings

Port	Mode
Port 1	All / Interface / Etherlike / RMON

Port1 mib Counters

IF mib Counter Name	mib Counter Value
ifInOctets	0
ifInUcastPkts	0
ifInNUcastPkts	0
ifInDiscards	0
ifOutOctets	0
ifOutUcastPkts	0
ifOutNUcastPkts	0
ifOutDiscards	0
ifInMulticastPkts	0
ifInBroadcastPkts	0
ifOutMulticastPkts	0
ifOutBroadcastPkts	0

Ether-Like mib Counter Name	mib Counter Value
dot3StatsAlignmentErrors	0
dot3StatsFCSErrors	0
dot3StatsSingleCollisionFrames	0
dot3StatsMultipleCollisionFrames	0
dot3StatsDeferredTransmissions	0
dot3StatsLateCollisions	0
dot3StatsExcessiveCollisions	0
dot3StatsFrameTooLongs	0
dot3StatsSymbolErrors	0
dot3ControlInUnknownOpcodes	0
dot3InPauseFrames	0
dot3OutPauseFrames	0

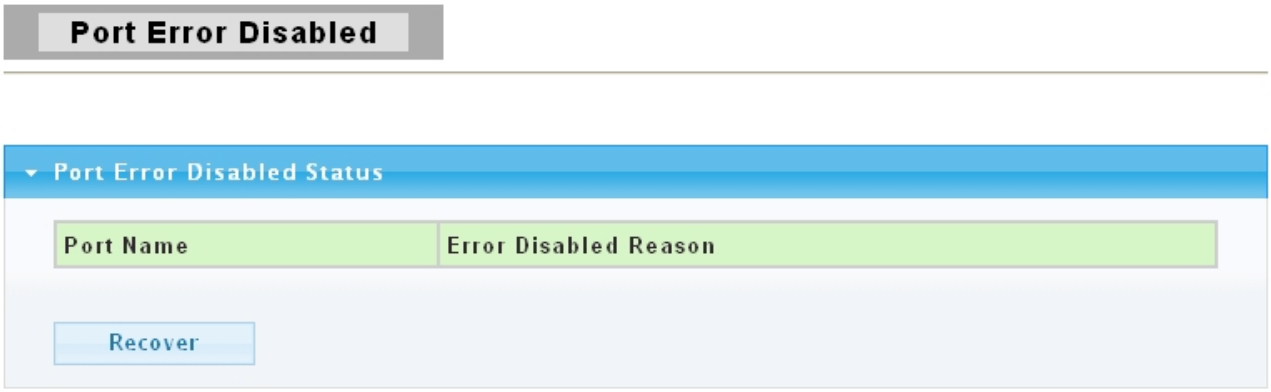
Rmon mib Counter Name	mib Counter Value
etherStatsDropEvents	0
etherStatsOctets	0
etherStatsPkts	0
etherStatsBroadcastPkts	0
etherStatsMulticastPkts	0
etherStatsCRCAlignErrors	0
etherStatsUnderSizePkts	0
etherStatsOverSizePkts	0
etherStatsFragments	0
etherStatsJabbers	0
etherStatsCollisions	0
etherStatsPkts64Octets	0
etherStatsPkts65to127Octets	0
etherStatsPkts128to255Octets	0
etherStatsPkts256to511Octets	0
etherStatsPkts512to1023Octets	0
etherStatsPkts1024to1518Octets	0
IngressLackPktBufDrop	0

The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port	This identifies the Ethernet port.
Mode	You have four choices: All, Interface, Etherlike and RMON.

3.1.3.3 Port Error Disabled

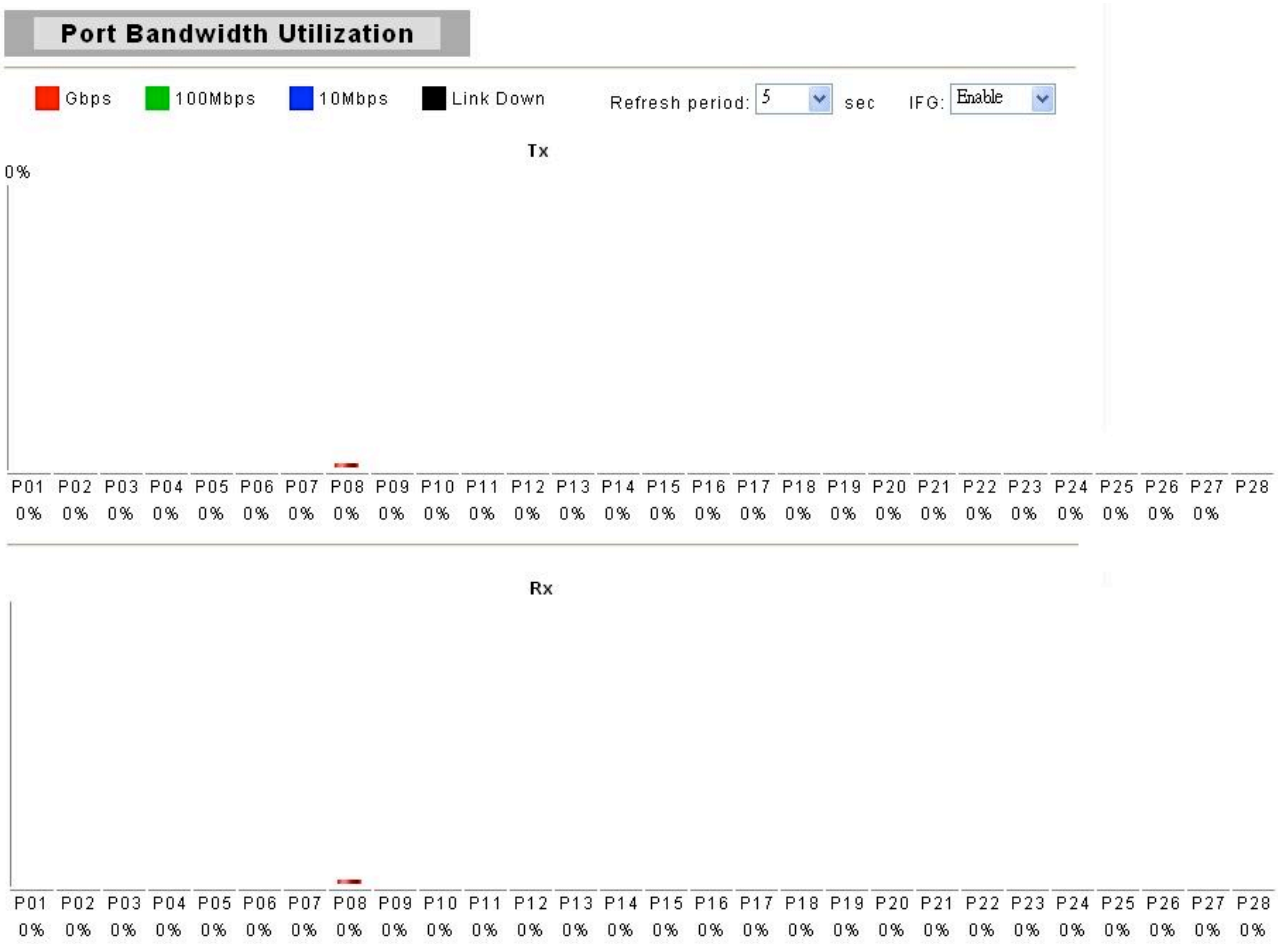
This page allow the user to browse ports that are disabled by some protocols, such as BPDU Guard, Loopback and UDLD.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port Name	This shows the disabled Ethernet port.
Error Disabled Reason	This shows the reasons for the error(s).
Recover	Click this button to enable those error-disabled ports.

3.1.3.4 Bandwidth Utilization

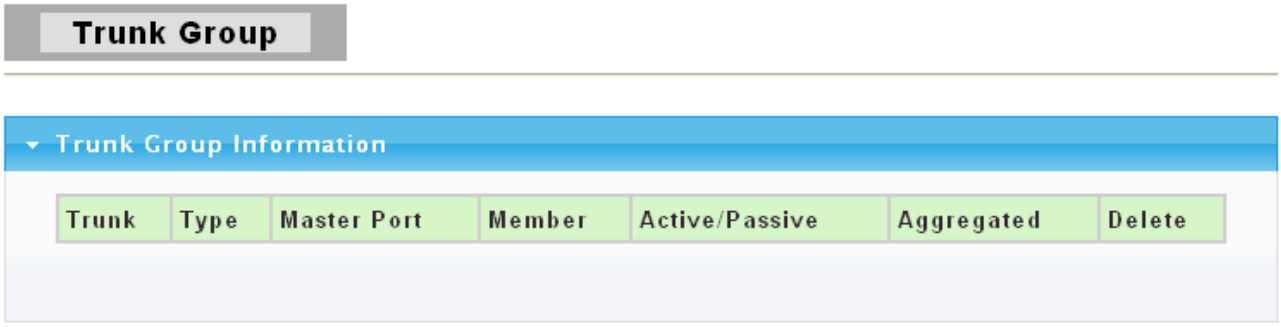


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Refresh Period	This shows the period interval between last and next refresh. You have three choices: 2 sec, 5 sec and 10 sec.
IFG	You can **enable** or **disable** this function.

3.1.4 Trunk Group

Click **Status** > **Trunk Group** in the navigation panel to view the screen shown below.



The following table describes the labels on this screen.

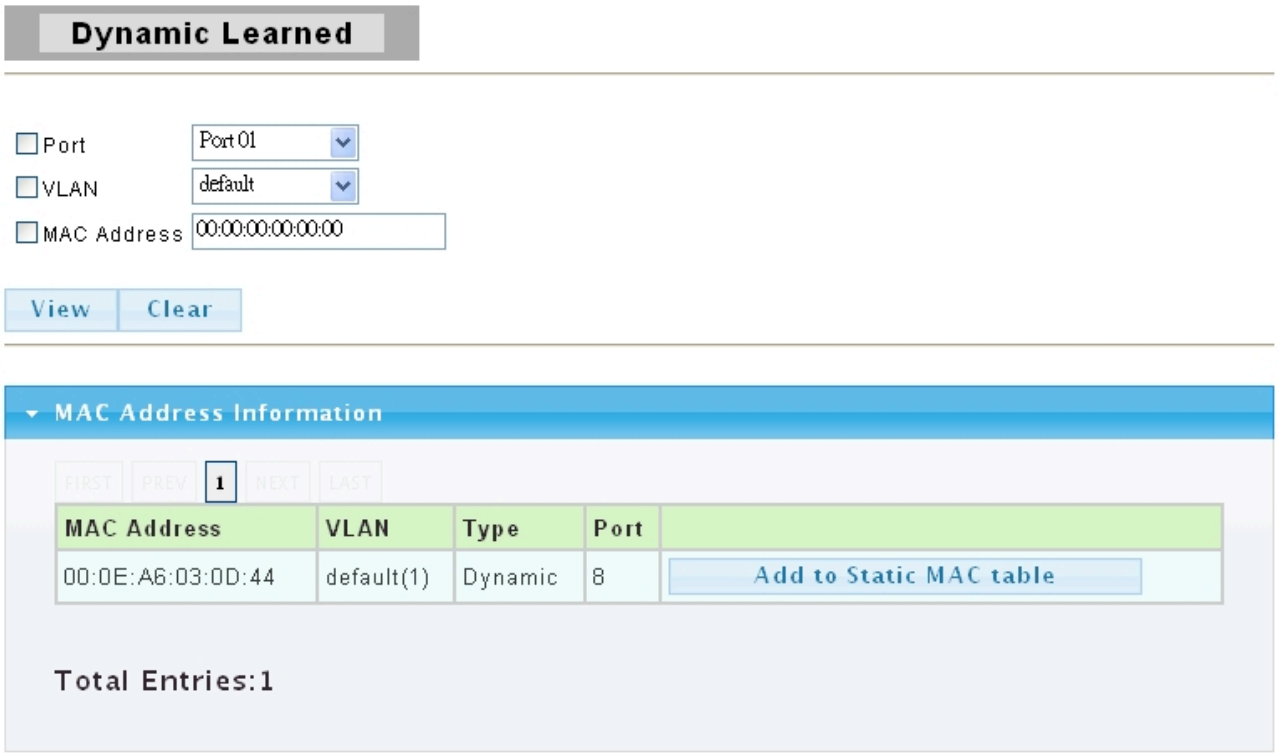
LABEL	DESCRIPTION
Trunk	This field displays the trunk to identify a trunk group; that is, one logical link containing multiple ports.
Type	This field displays the type of the trunk group: a static trunk or an LACP trunk.
Master port	This field displays which ports are master ports of the trunk. The port with lowest port ID is designated to be master port of the trunk. To synchronize the settings of trunk member ports, the configuration of the trunk master port would be applied to all trunk member ports. Other member ports are slave ports that cannot be configured individually in most settings (such as VLAN, port ability and so on.) but follow the configuration of the master port.
Member	This field shows the member ports of the trunk.
Active/ Passive	If the trunk is an LACP trunk, this field shows the LACP active and passive ports. The LACP active port would send LACP PDU periodically.
Aggregated	This field displays the ports that aggregated in a trunk group. A static trunk would be aggregated immediately; an LACP trunk exchanges LACP PDU to link partner to aggregate.
Delete	Click this button to delete the trunk.

3.1.5 MAC Address Table

Use the MAC Address Table pages to show dynamic MAC table and configure settings for static MAC entries.

3.1.5.1 Dynamic Learned

Click **Status > MAC Address Table > Dynamic Learned** in the navigation panel to bring up the screen shown below.

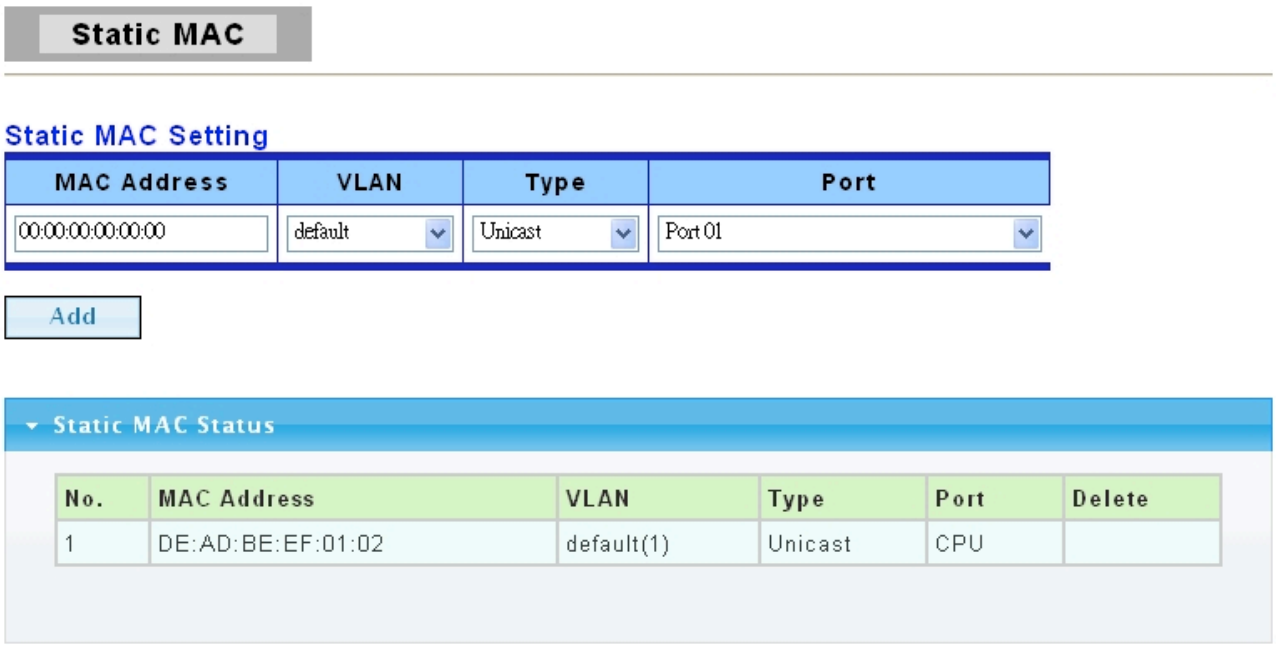


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port	Select the port number to show or clear dynamic MAC entries. If not selecting any port, VLAN or MAC address, the whole dynamic MAC table will be displayed or cleared.
VLAN	This is the VLAN group to which the MAC address belongs. Select the VLAN to show or clear dynamic MAC entries. If not selecting any port, VLAN or MAC address, the whole dynamic MAC table will be displayed or cleared.
MAC Address	This field displays the MAC address that will be forwarded. Select the MAC address to show or clear dynamic MAC entries. If not selecting any port, VLAN or MAC address, the whole dynamic MAC table will be displayed or cleared.
View	Click the View button to display the logs according to the criteria specified in the fields above.
Clear	Click this button to remove any dynamically learned MAC address forwarding entries.
Type	This shows whether the MAC address is **Dynamic** (learned by the Switch) or **Static Unicast** (manually entered in the **Static MAC Forwarding** screen).
Port	This field displays the port where the MAC address will be forwarded.
Add to Static MAC table	Click this button to add any port into the static MAC table.

3.1.5.2 Static MAC

Click **Status > MAC Address Table > Static MAC** in the navigation panel to bring up the screen shown below.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
MAC Address	Enter the MAC address in valid MAC address format; that is, six hexadecimal character pairs. Static MAC addresses do not age out.
VLAN	Enter the VLAN identification number the MAC address belongs to.
Type	There are two types of MAC entry: · **Unicast:** add a unicast MAC entry. · **Multicast:** add a multicast MAC entry.
Port	If Type is unicast, select the port number of the MAC entry; If Type is multicast, select the port list of the MAC entry.
Add	Click **Add** to add any port into the static MAC address table.
No.	This is the index number for the MAC address forwarding entries.
Delete	To delete any selected MAC address entries.

3.2 Network

Use the Network pages to configure settings for the switch network interface and how the switch connects to a remote server to get services.

3.2.1 IP Address

Use the IP Setting screen to configure the switch IP address and the default gateway device. The gateway field specifies the IP address of the gateway (next hop) for outgoing traffic.
The switch needs an IP address for it to be managed over the network. The factory default IP address is 192.168.2.1. The subnet mask specifies the network number portion of an IP address. The factory default subnet mask is 255.255.255.0.

Click **Network** > **IP Address** in the navigation panel to display the screen shown below.

IP Address

IP Address Setting

Mode	Static DHCP
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Gateway	192.168.1.254

Apply

IP Information

Information Name	Information Value
DHCP State	Disabled
Static IP Address	192.168.1.1
Static Subnet Mask	255.255.255.0
Static Gateway	192.168.1.254

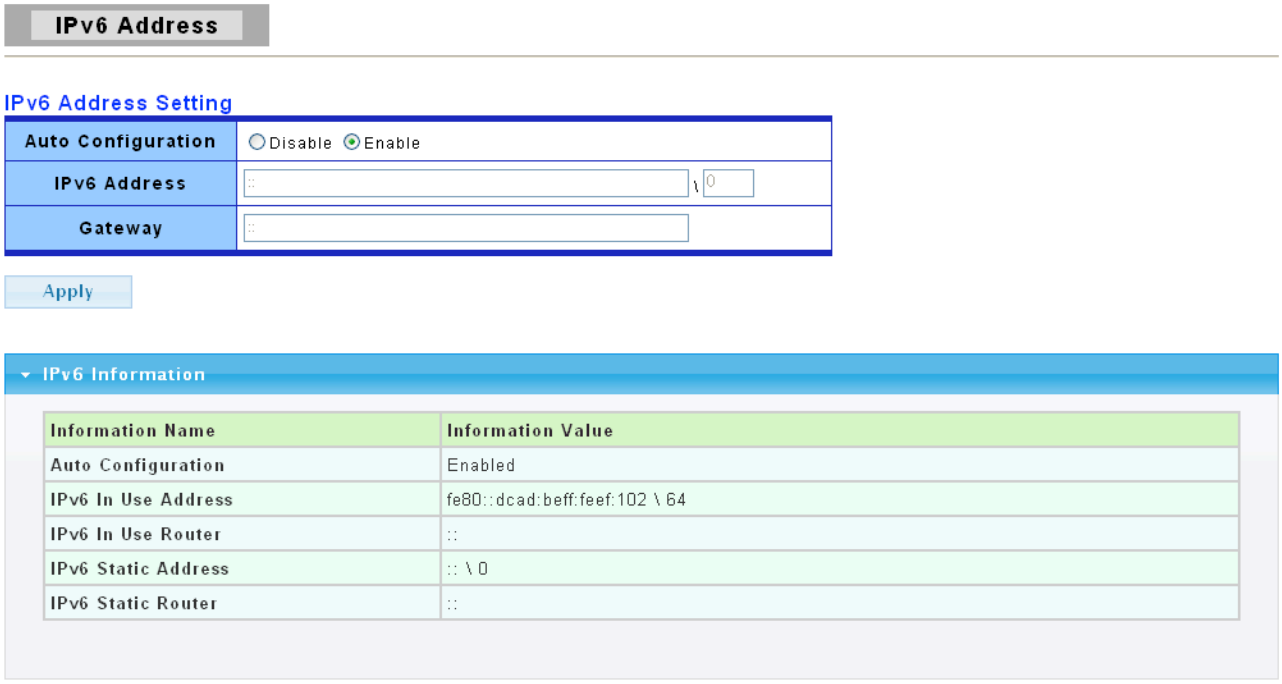
The screen shot shows sample data. The actual values may differ.

The following table describes the labels on this screen.

LABEL	DESCRIPTION
Mode	Select **Static** from the drop-down box if you don't have a DHCP server or if you wish to assign static IP address information to the switch. You need to fill in the following fields when you select this option. Select the **DHCP** option if you have a DHCP server that can assign the switch an IP address, a subnet mask and a gateway IP address automatically.
IP Address	Enter the IP address of your switch in dotted decimal notation; for example, 192.168.2.1. If static mode is enabled, enter the IP address in this field.
Subnet Mask	Enter the IP subnet mask of your switch in dotted decimal notation; for example, 255.255.255.0. If static mode is enabled, enter the subnet mask in this field.
Gateway	Enter the IP address of the gateway in dotted decimal notation. If static mode is enabled, enter the gateway address in this field.
Apply	Click **Apply** to save your changes to the switch.

3.2.2 IPv6 Address

Click **Network**> **IPv6 Address** in the navigation panel to display the screen shown below.

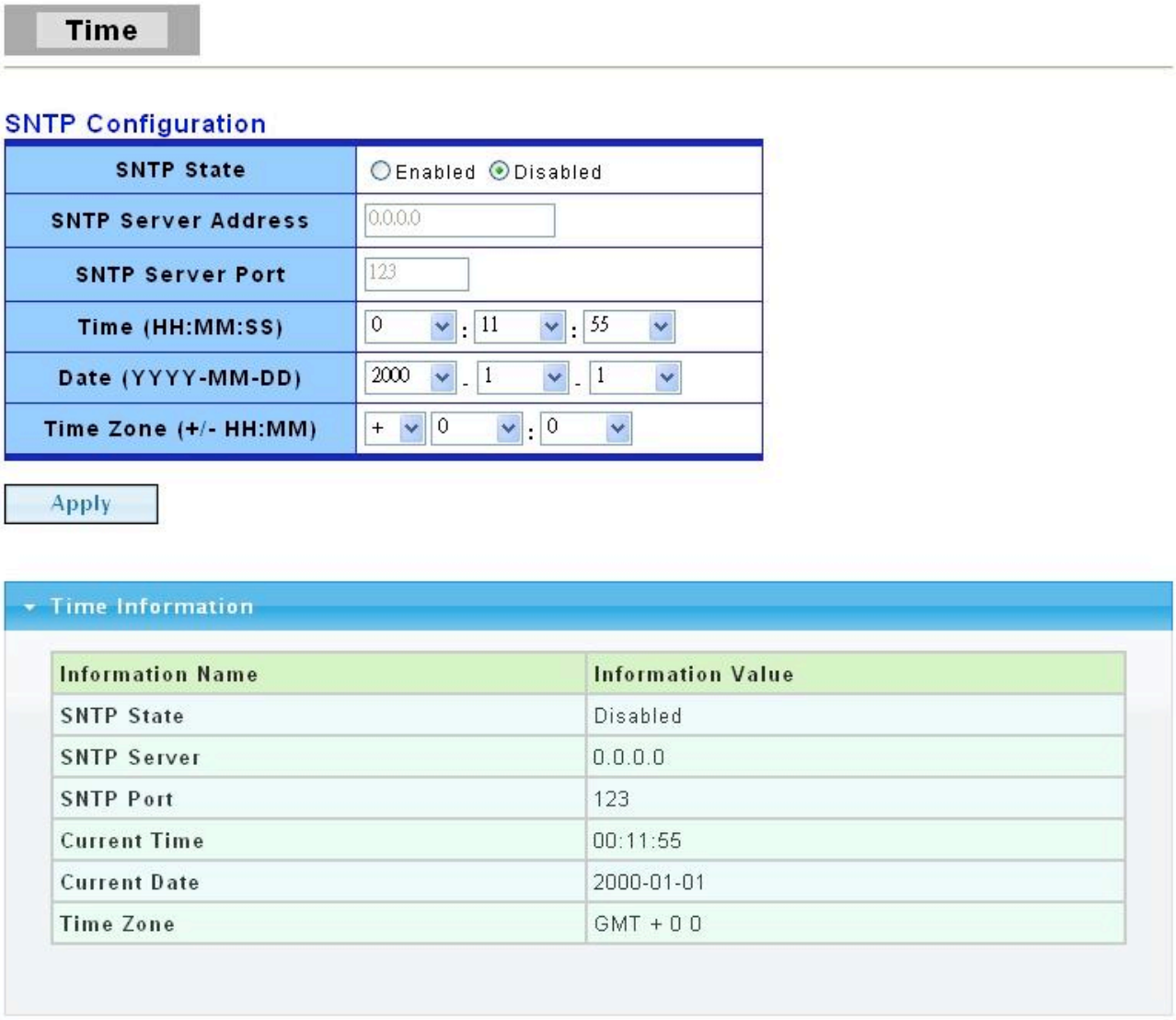


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Auto Configuration	Select **Enable** or **Disable** this function.
IPv6 Address	Enter the IPv6 address of your switch. If auto configuration mode is disabled, enter the IPv6 address in this field.
Gateway	Enter the IP address of the gateway in dotted decimal notation. If auto configuration mode is disabled, enter the IPv6 gateway address in this field.
Apply	Click **Apply** to save your changes to the switch.
Auto Configuration	It displays whether the auto configuration function is opened or not.
IPv6 In Use Address	It displays the in-use address information of IPv6.
IPv6 In Use Router	It displays the in-use router information of IPv6.
IPv6 Static Address	It displays the static address of IPv6.
IPv6 Static router	It displays the static router of IPv6.

3.2.3 Time

Click **Network**> **Time** in the navigation panel to display the screen shown below.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
SNTP State	Select **Enable** to use Simple Network Time Protocol (SNTP) or **Disable** to set the time manually.
SNTP Server Address	If SNTP is enabled, enter the IP address of the time server you will use.
SNTP Server Port	It shows the Port Number of SNTP server.
Time (HH:MM:SS)	If SNTP is disabled, enter the new time in hour, minute and second format.
Date (YYYY-MM-DD)	If SNTP is disabled, enter the new date in year, month and day format.

Time Zone	Select system time zone by hours and minutes. “+” means after-UTC and “-” means before-UTC.
Apply	Click **Apply** to save your changes to the switch.

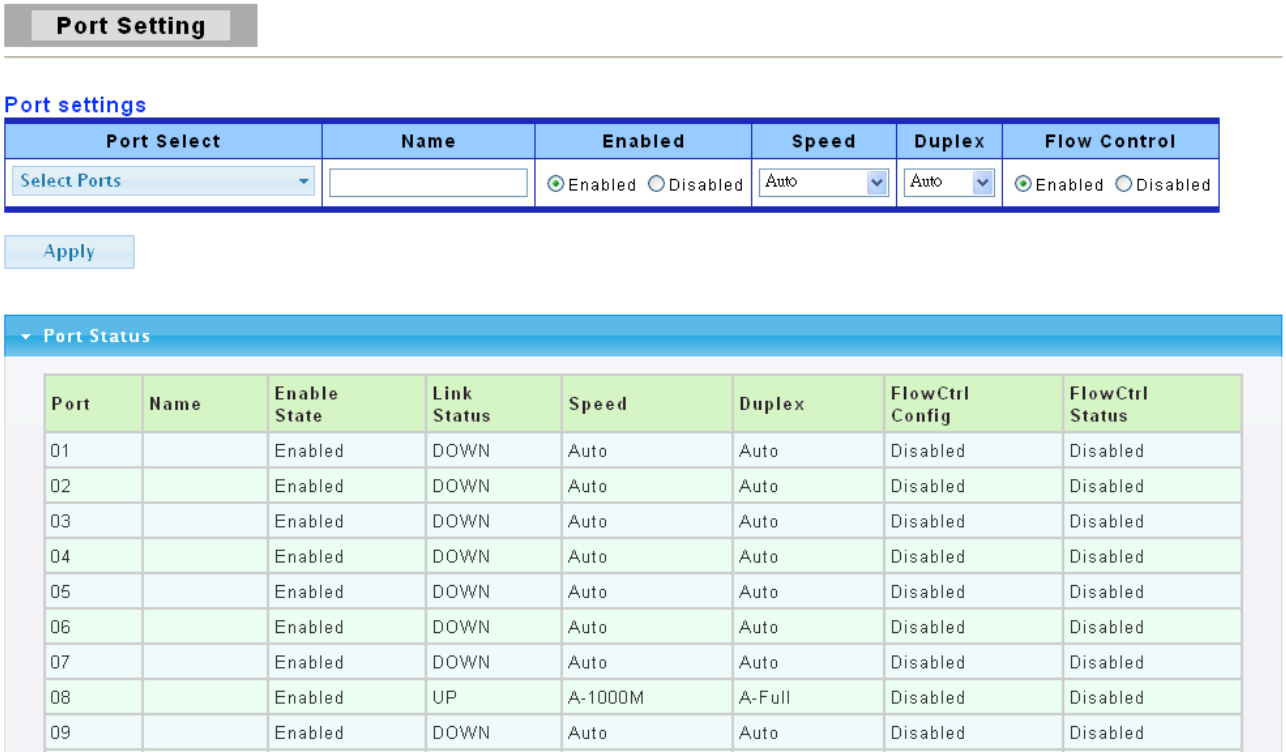
3.3 Switching

Use the Switching pages to configure settings for the switch ports, trunk and other switch features.

3.3.1 Port Setting

This page allow the user to configure switch port settings and show port current status.

Click **Switching** > **Port Setting** in the navigation panel to display the screen shown below.



The following table describes the labels in this screen.

LABEL	DESCRIPTION
Port Select	Select the port(s) from the list box that you will change the port settings for.
Name	It allows you to give a description of the port.
Enabled	Select **Enable** from the drop-down box to enable a port. The factory default for all ports is enabled. A port must be enabled for data transmission to occur. Select **Disable** to not use a port.
Speed	Port speed capabilities: · **Auto:** Auto speed with all capabilities. · **Auto-10M:** Auto speed with 10M ability only. · **Auto-100M:** Auto speed with 100M ability only. · **Auto-1000M:** Auto speed with 1000M ability only. · **Auto-10/100M:** Auto speed with 10/100M ability.

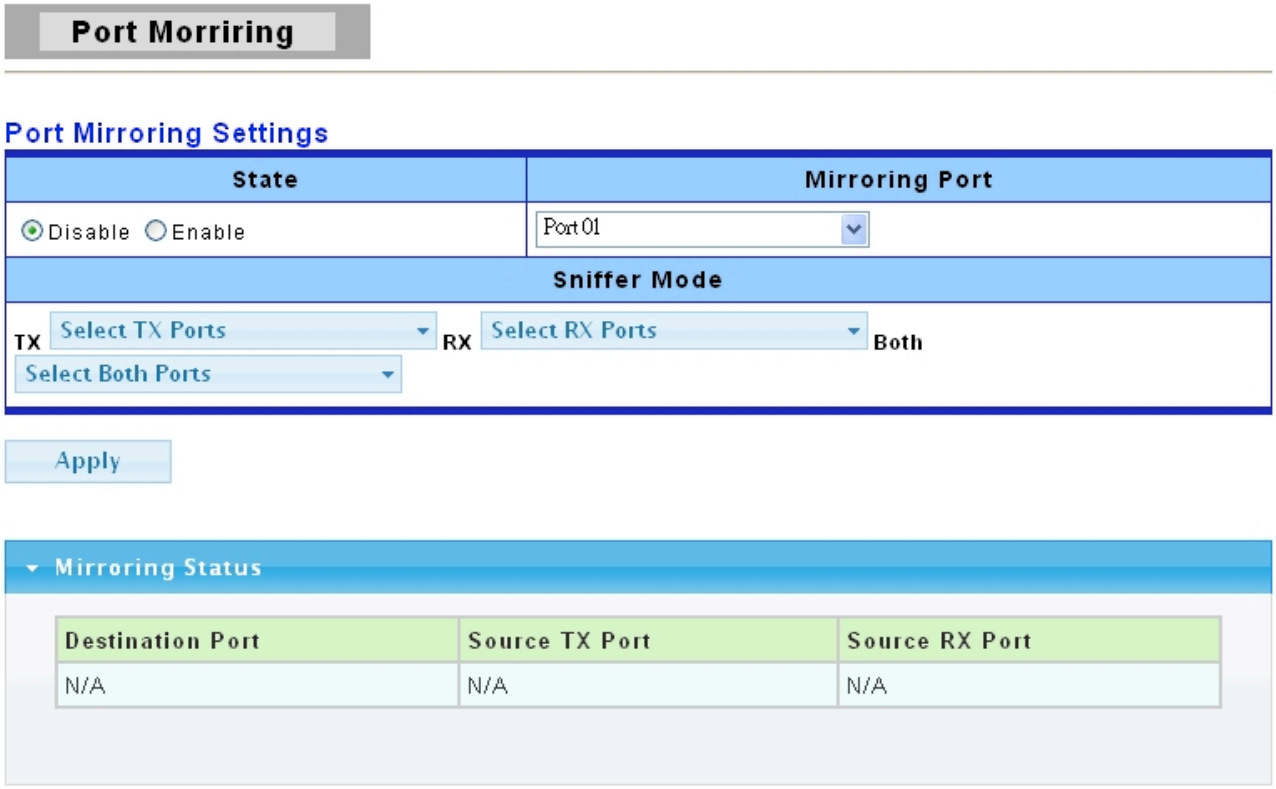
	· **10M:** Force speed with 10M ability. · **100M:** Force speed with 100M ability. · **1000M:** Force speed with 1000M ability. Selecting Auto (auto-negotiation) allows one port to negotiate with a peer port automatically to obtain the connection speed and duplex mode that both ends support. When auto-negotiation is turned on, a port on the switch negotiates with the peer automatically to determine the connection speed and duplex mode. If the peer port does not support auto-negotiation or turns off this feature, the switch determines the connection speed by detecting the signal on the cable and using half duplex mode. When the switch's auto-negotiation is turned off, a port uses the pre-configured speed and duplex mode when making a connection, thus requiring you to make sure that the settings of the peer port are the same in order to connect.
Duplex	Port duplex capabilities: · **Auto:** Auto duplex with all capabilities. · **Half:** Auto speed with 10M ability only. · **Full:** Auto speed with 100M ability only.
Flow Control	A concentration of traffic on a port decreases port bandwidth and overflows buffer memory, causing packet discards and frame losses. Flow Control is used to regulate transmission of signals to match the bandwidth of the receiving port. The switch uses IEEE802.3x flow control in full duplex mode and backpressure flow control in half duplex mode. IEEE802.3x flow control is used in full duplex mode to send a pause signal to the sending port, causing it to temporarily stop sending signals when the receiving port memory buffers fill. Back Pressure flow control is typically used in half duplex mode to send a "collision" signal to the sending port (mimicking a state of packet collision) causing the sending port to temporarily stop sending signals and resend later. Select "**Enabled**" to enable it. Or select "**Disabled**" to disable it.
Apply	Click **Apply** to save your changes to the switch.
Flow Control Config	The Config column displays if Flow Control has been configured to be turned On or Off for the port.
Flow Control Status	The column displays the port's current Flow Control status.

3.3.2 Port Mirroring

The Mirror function copies all the packets that are transmitted by the source port to the destination port. It allows administrators to analyze and monitor the traffic of the monitored ports.

The Mirror Configuration steps are as follows:

1. Choose "**enable**" or "**disable**" this function in "**State"** column
2. Select those ports that are going to be monitored by marking the check boxes in **"Monitoring Port"** column.
3. Click the "**TX"** or "**RX"** or **"Both"** in the drop list of the **"Sniffer Mode"** column. Select the packet types that are going to be monitored (transferred or received packets or both).
4. Click **"Apply"** to activate.

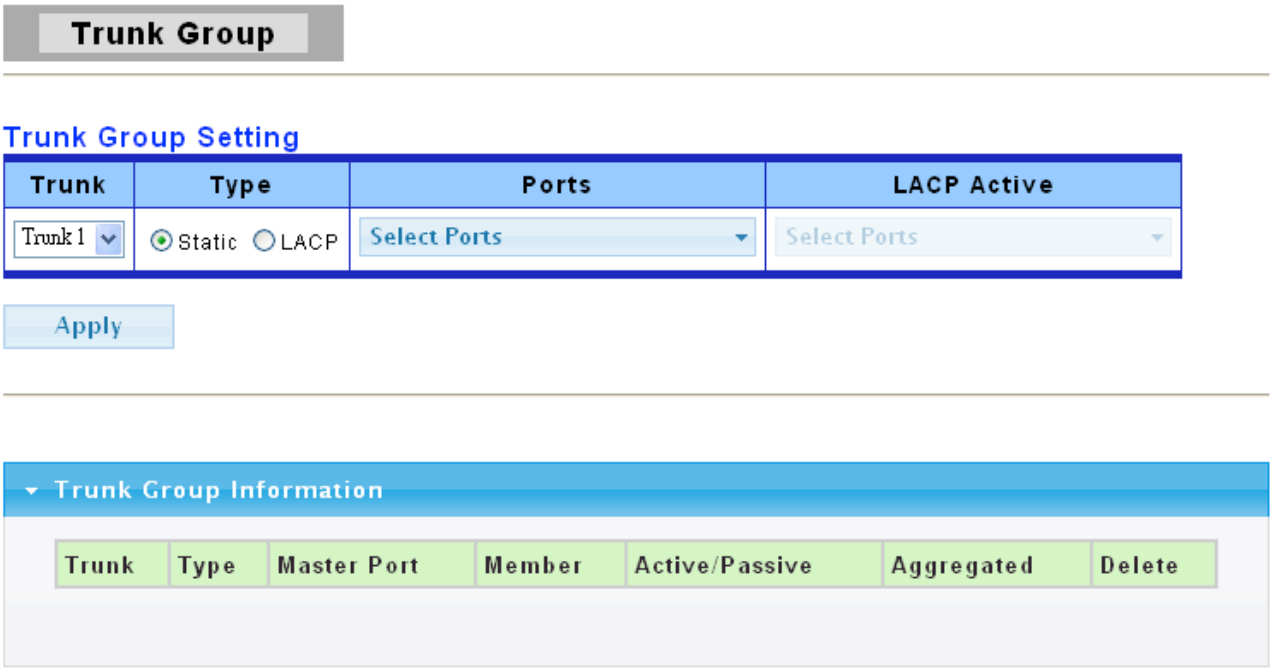


(a) Destination port: Theoretically, it's possible to set more than one destination port in a network. Actually, the port mirroring function will lower the network throughput; therefore, it's recommended to set "only one" destination port in a network.
(b) Mirroring Port: (1)RX: means copy the incoming packets of the selected source port to the selected destination port. (2)TX: means copy the outgoing packets of the selected source port to the selected destination port. (3)Rx & Tx: means the combination of Rx and Tx.
(c) Source port: the traffic source that will be copied to the destination port.

3.3.3 Trunk

3.3.3.1 Trunk Group

Click **Switching**> **Trunk** > **Trunk Group** in the navigation panel to view the screen shown below.



The following table describes the labels in this screen.

LABEL	DESCRIPTION
Trunk	This field displays the trunk group number to identify a trunk group; that is, one logical link containing multiple ports.
Type	Select the type of the trunk group: a static trunk or an LACP trunk. A static trunk would be aggregated immediately; an LACP trunk exchanges LACP PDU to link partner to aggregate.
Ports	Select the ports to be added to the trunk group. There are the following limitations for choosing the member ports: · A member port cannot be bandwidth limited. · A member port cannot be a mirroring port. · Member ports should join the same VLANs. · A member port cannot join more than one trunk group. · A member port cannot be in 802.1x force-authed or auth mode. · There could be at most 8 member ports in a trunk.
LACP Active	Select the LACP active ports to be added to the trunk group. This field is active when **LACP** is selected as the **Type**.
Apply	Click **Apply** to save your changes to the switch.
Trunk	This field displays the trunk number to identify a trunk group; that is, one logical link containing multiple ports.
Type	Here displays the type of the trunk group: a static trunk or an LACP trunk.
Master Port	This field displays the master port's information. The port with lowest port ID is designated to be master port of the trunk. To synchronize the settings of trunk member ports, the configuration of the trunk master port would be applied to all trunk member ports. Other member ports are slave ports that cannot be configured individually in most settings (such as VLAN, port ability and so on.) but follow the configuration of the master port.
Member	This field displays the ports that are part of the trunk group.
Active/ Passive	If the trunk is an LACP trunk, this field shows the LACP active and passive ports. The LACP active port would send LACP PDU periodically.

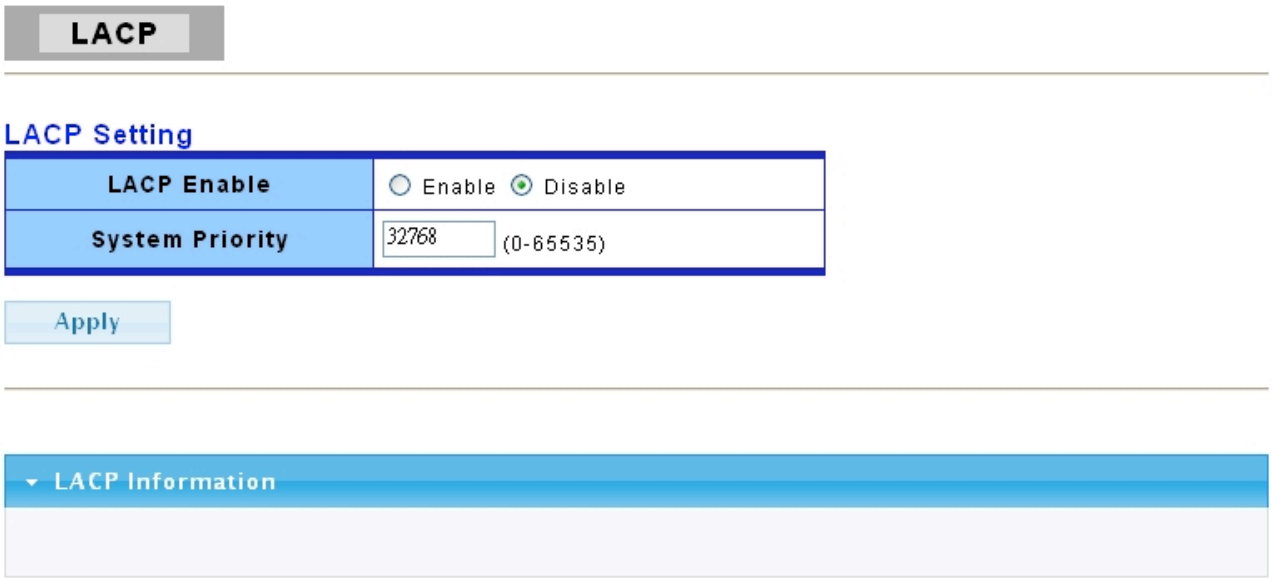
Aggregated	This field displays the ports that are aggregated in a trunk group. A static trunk would be aggregated immediately; an LACP trunk exchanges LACP PDU to link partner to aggregate.
Delete	Click this button to delete the trunk.

3.3.3.2 LACP

Click **Switching** > **Trunk** > **LACP** to display the screen shown below.

LACP: Link Aggregation Control Protocol.

Note: Do not configure this screen unless you want to enable dynamic link aggregation.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
LACP Enable	Select **Enable** from the drop-down box to enable Link Aggregation Control Protocol (LACP). Select **Disable** to not use LACP.
System Priority	LACP system priority is a number between 0 and 65,535. The switch with the lowest system priority (and lowest port number if system priority is the same) becomes the LACP “server.” The LACP “server” controls the operation of LACP setup. Enter a number to set the priority of an active port using Link Aggregation Control Protocol (LACP). The smaller the number, the higher the priority level.
Apply	Click **Apply** to save your changes to the Switch.

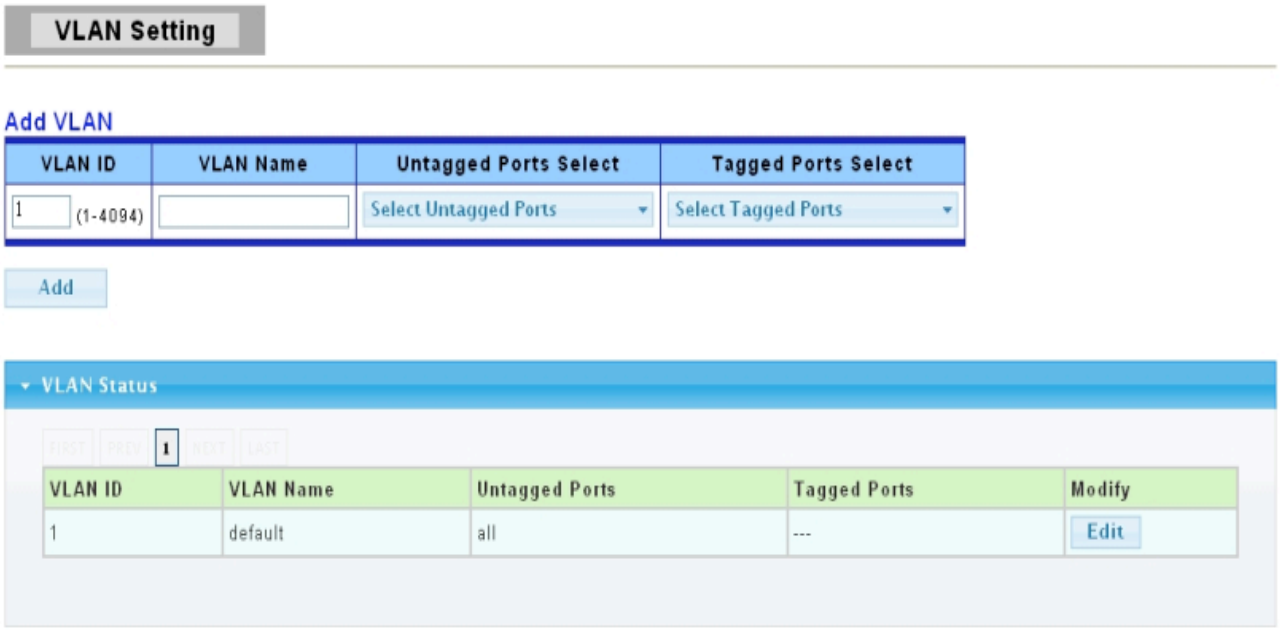
3.3.4 VLAN

Each VLAN in a network has an associated VLAN ID, which displays in the IEEE 802.1Q tag in the L2 header of packets transmitted on a VLAN.

3.3.4.1 VLAN Setting

This page allows the user to add, edit or delete VLAN settings.

Click **Switching** > **VLAN** > **VLAN Setting** to access the screen below to configure and view VLAN parameters for the switch**.**



The following table describes the related labels on this screen.

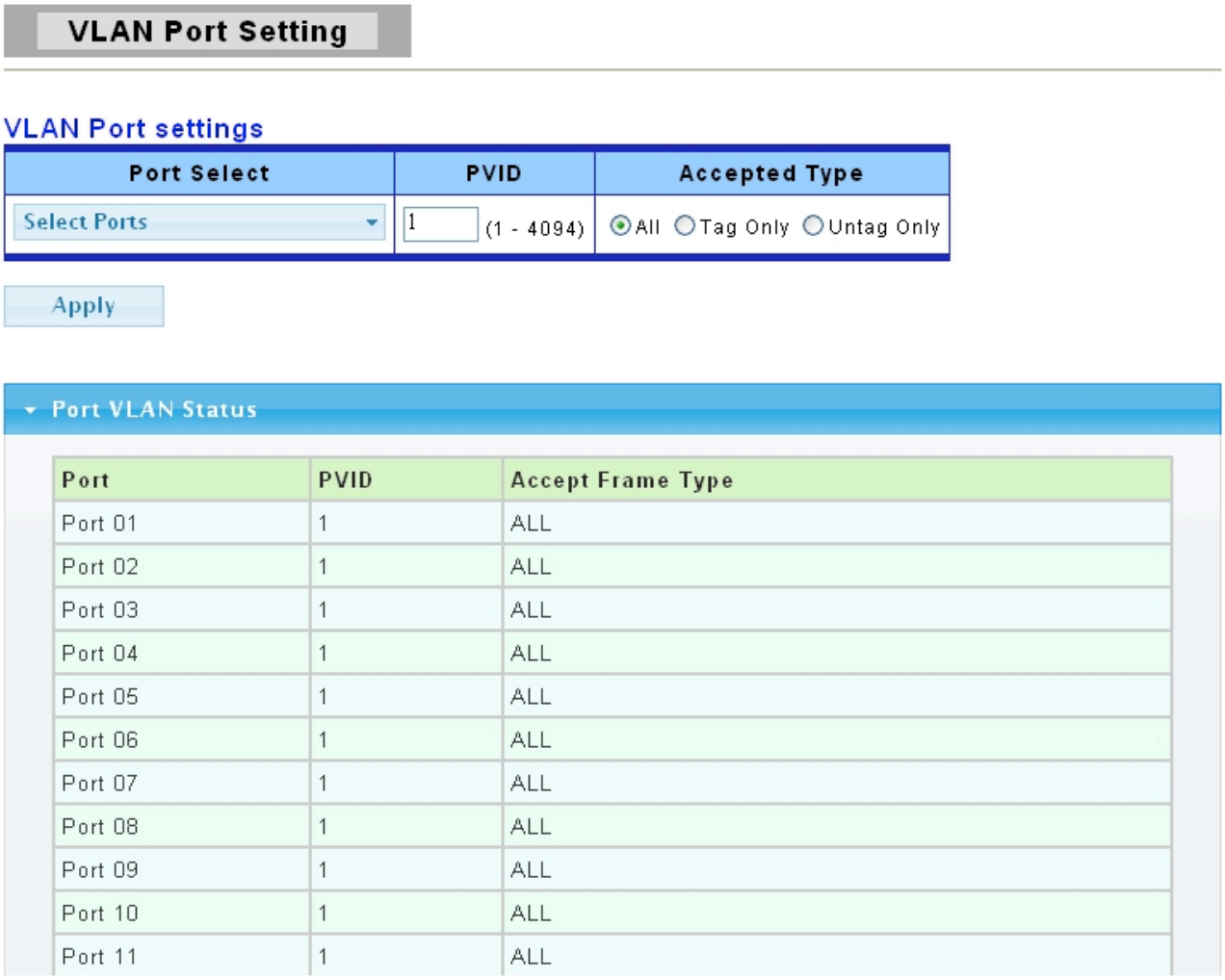
LABEL	DESCRIPTION
VLAN ID	A unique number (between 1 and 4094) that identifies a particular VLAN.
VLAN Name	A 32-character alphanumeric name associated with a VLAN ID. The VLAN Name is intended to make user-defined VLANs easier to identify and remember.
Untagged Ports Select	Select Untagged to make the port a permanent member of this VLAN group. All outgoing frames will be transmitted without a VLAN Group ID tag.
Tagged Ports Select	Select Tagged to make the port a permanent member of this VLAN group. All outgoing frames will be transmitted with the VLAN Group ID tag.
Add	Click **Add** to save your changes to the Switch.
VLAN ID	This field displays the unique identification number of the VLAN group.
VLAN Name	This field displays the descriptive name for this VLAN group.
Untagged Ports	This field displays all the ports that will transmit outgoing frames without a VLAN group ID tag.
Tagged Ports	This field displays all the ports that will transmit outgoing frames with a VLAN group ID tag.
Modify	Click **Edit** to modify the tagged and untagged ports.

3.3.4.2 VLAN Port Setting

This page allow user to configure VLAN port related settings.

Click **Switching** > **VLAN** > **VLAN Port Setting** to access the screen below.

A PVID (Port VLAN ID) is a tag that adds to incoming untagged frames received on a port so that the frames are forwarded to the VLAN group that the tag defines.



The following table describes the labels on this screen.

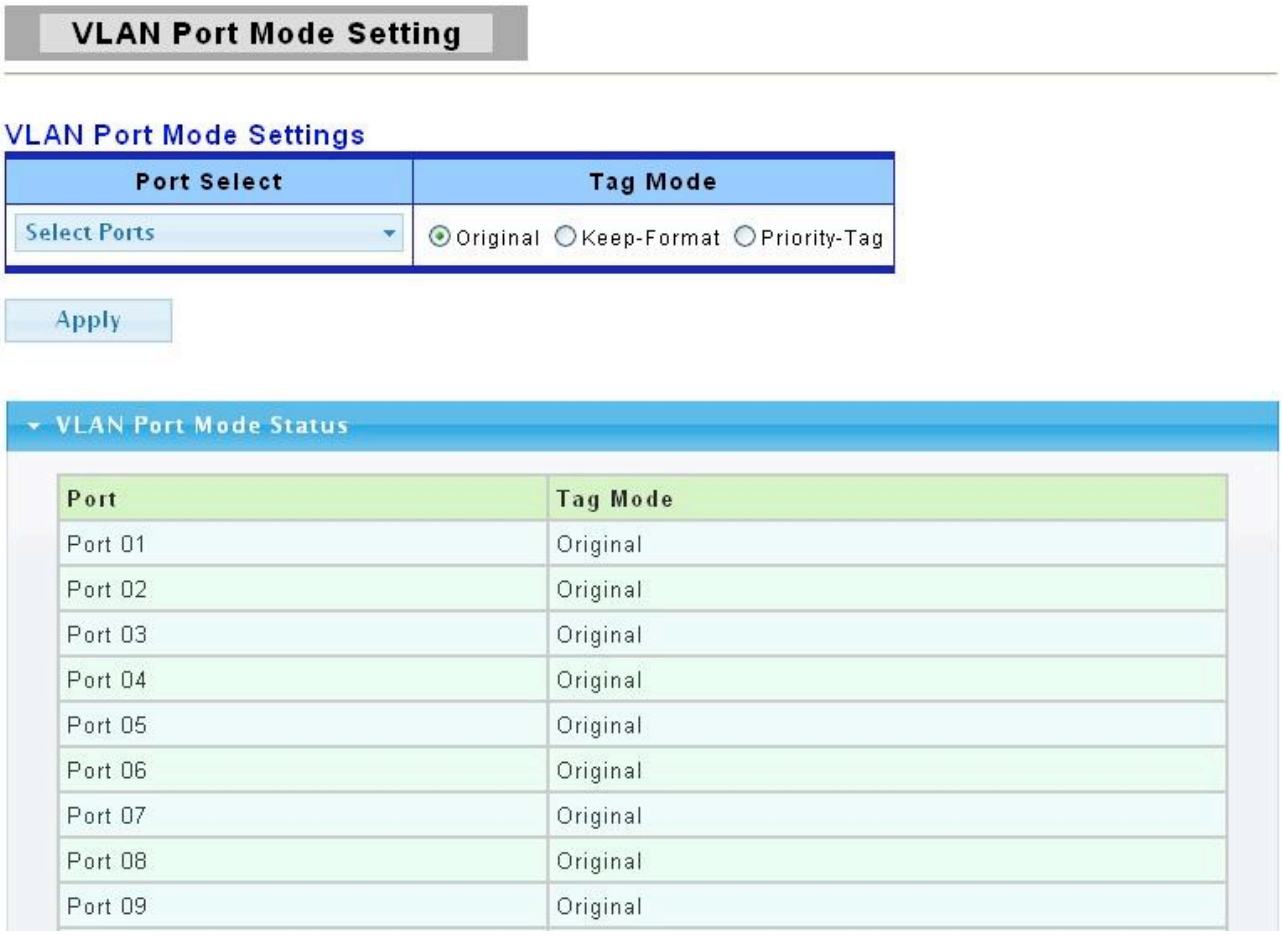
LABEL	DESCRIPTION
Port Select	Select the ports to change the PVID for.
PVID	Enter a number between 1 and 4094 as the port VLAN ID (PVID).
Accepted Type	Select the accepted type of the VLAN port: · **All:** Accept tagged and untagged frames. · **Tag only:** Only accept tagged frame. · **Untag only:** Only accept untagged frame.
Apply	Click **Apply** to save your changes to the switch.
Port	This field displays the port number.
PVID	This field displays the port VLAN ID (PVID).

Accepted Frame Type	This field displays the accepted frame type of the VLAN port.

3.3.4.3 VLAN Port Mode Setting

This page allow user to configure VLAN port tag mode setting.

Click **Switching** > **VLAN** > **VLAN Port Mode Setting** to access the screen below.



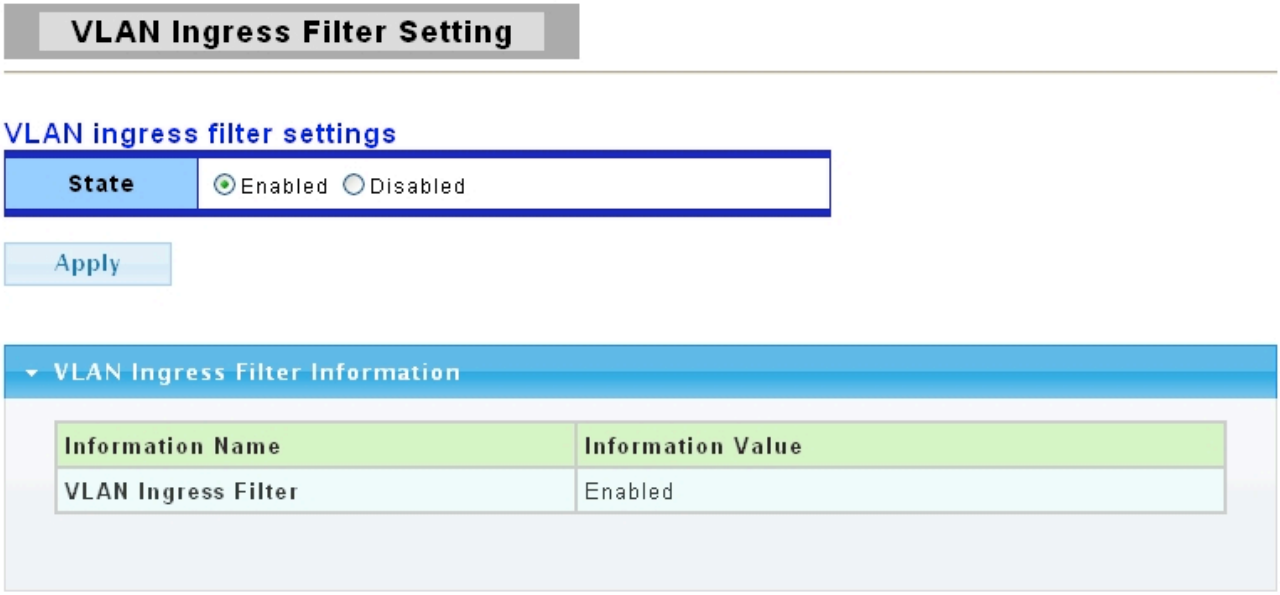
The following table describes the labels in this screen.

LABEL	DESCRIPTION
Port Select	Select the ports you're changing the settings for.
Tag Mode	Port tag mode: · **Original:** Tag depends on VLAN settings. · **Keep-Format:** Keep tag as packet received. · **Priority-Tag:** Always append priority-tag on packet.
Apply	Click **Apply** to save your changes to the switch.
Port	This field displays the port number.
Tag Mode	It displays the tag mode you have chosen.

3.3.4.4 VLAN Ingress Filter

This page allow user to configure VLAN ingress filter setting.

Click **Switching** > **VLAN** > **VLAN Ingress Filter** to access the screen below.



The following table describes the labels on this screen.

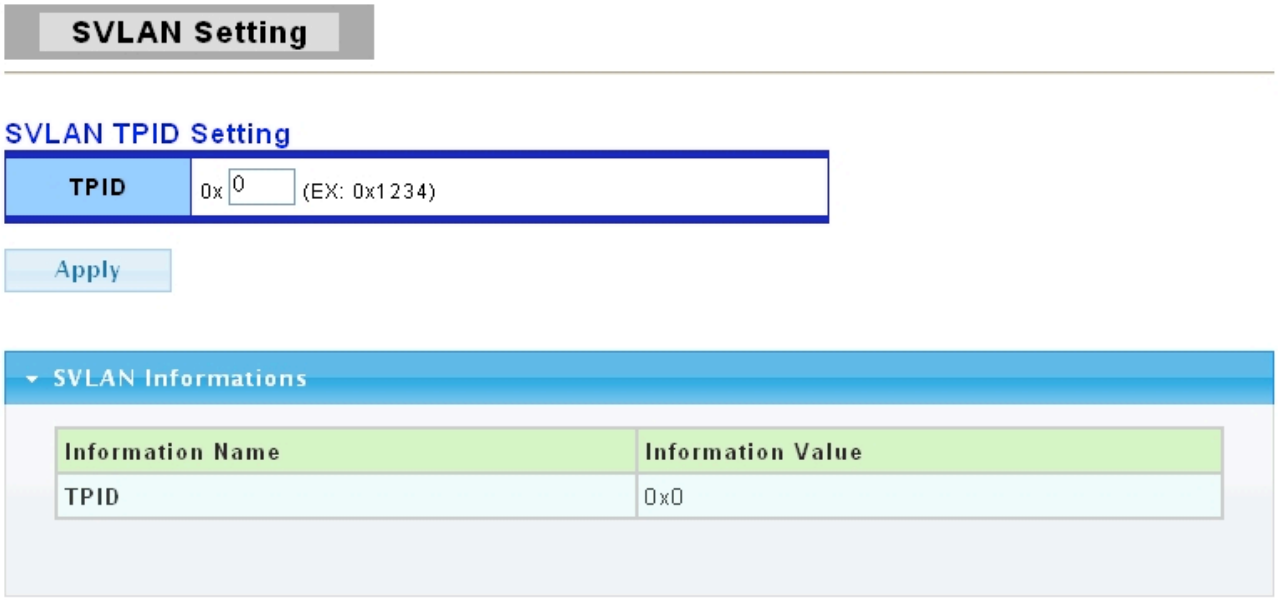
LABEL	DESCRIPTION
State	Select **Enabled** from the drop-down box to enable VLAN Ingress Filter. Select **Disabled** to not use VLAN Ingress Filter.
Apply	Click **Apply** to save your changes to the switch.

3.3.5 SVLAN

3.3.5.1 SVLAN Setting

This page allows the user to configure VLAN stacking tag protocol identifiers.

Click **Switching->SVLAN->SVLAN Setting** to access the screen below.



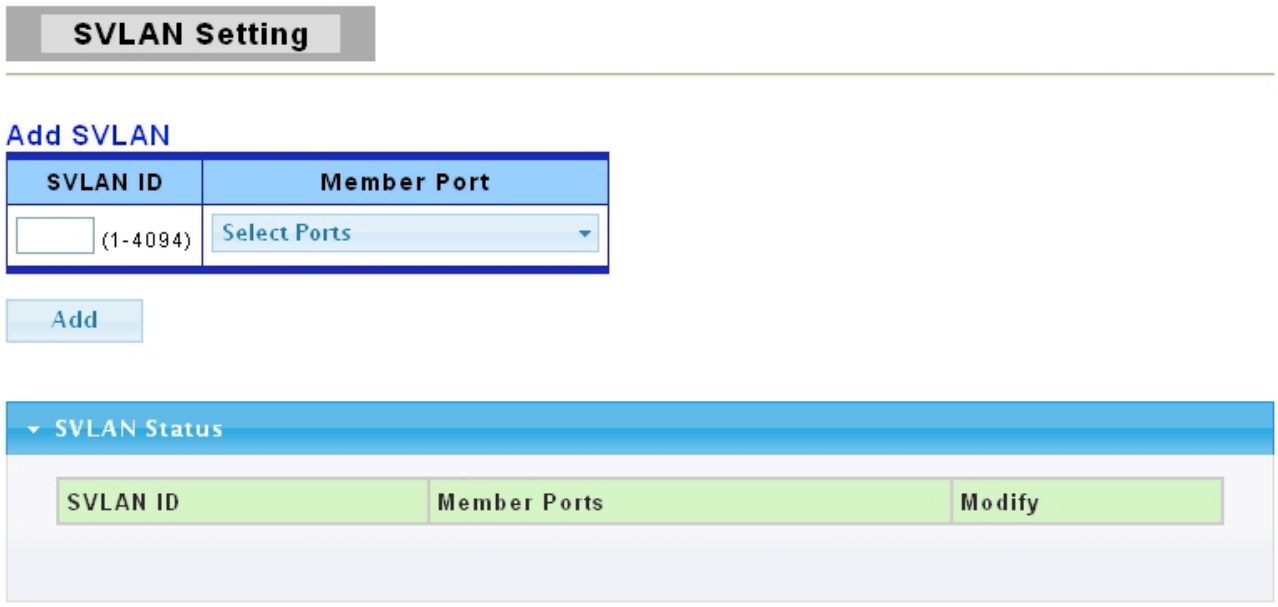
The following table describes the labels on this screen.

LABEL	DESCRIPTION
TPID	VLAN stacking tag protocol identifier (0x0000~0xFFFF).
Apply	Click **Apply** to save your changes to the switch.

3.3.5.2 SVLAN Member Setting

This page allows the user to configure VLAN stacking members.

Click **Switching->SVLAN->SVLAN Member Setting** to access the screen below.



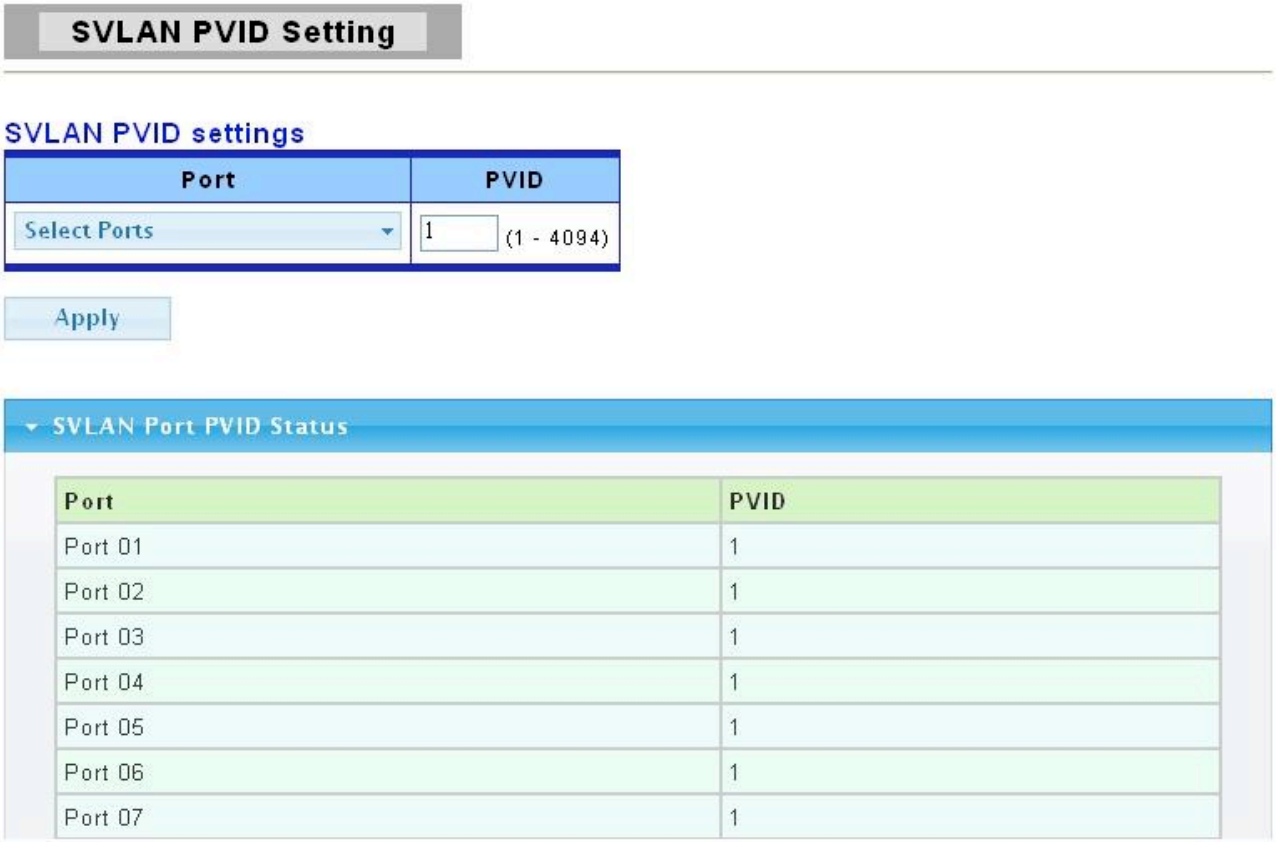
The following table describes the labels on this screen.

LABEL	DESCRIPTION
SVLAN ID	Stacking VLAN ID.
Member Port	Select one or multiple ports as member ports of the SVLAN.
Add	Click **Add** to add any member port into the SVLAN.

3.3.5.3 SVLAN PVID Setting

This page allows the user to add or set port VLAN stacking entries in the VLAN stacking table.

Click **Switching->SVLAN->SVLAN PVID Setting** to access the screen below.



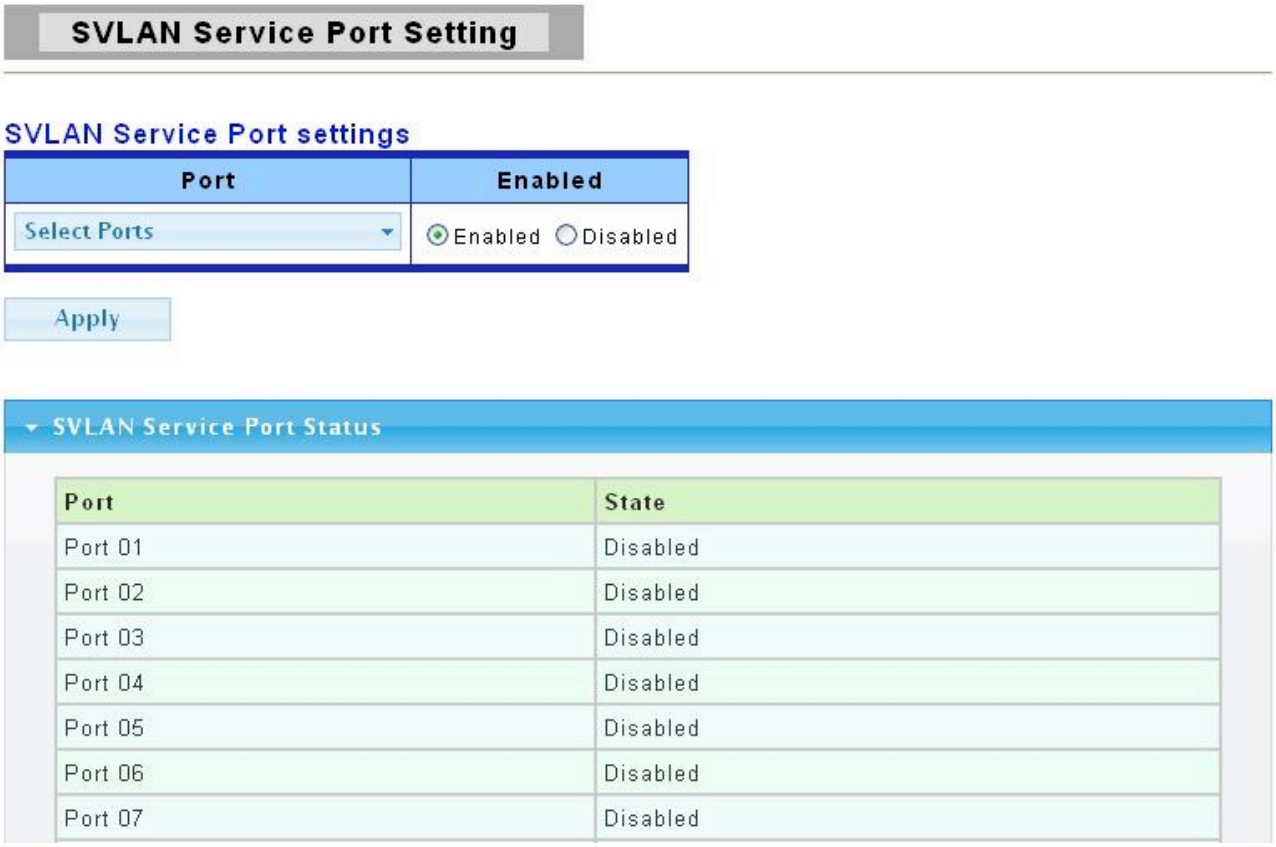
The following table describes the labels in this screen.

LABEL	DESCRIPTION
Port	Select the port(s) to configure the SVLAN PVID settings for.
PVID	Set VLAN ID for selected ports.
Apply	Click **Apply** to save your changes to the switch.

3.3.5.4 SVLAN Service Port

This page allows the user to configure VLAN stacking-aware ports.

Click **Switching->SVLAN->SVLAN Service Port** to access the screen below.



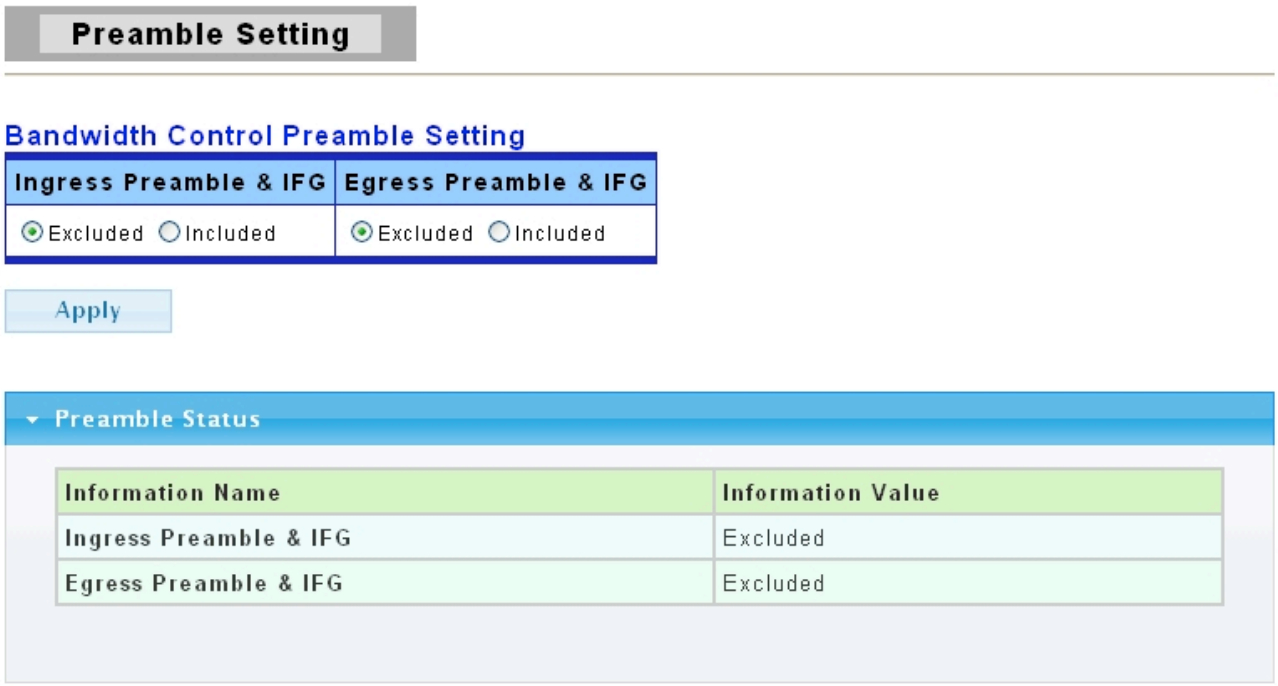
The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port	Select the port(s) to configure the settings for.
Enabled	Set VLAN stacking aware state: · **Enabled:** Set as VLAN stacking aware. · **Disabled:** Set as VLAN stacking unaware.
Apply	Click **Apply** to save your changes to the switch.

3.3.6 Bandwidth Control

3.3.6.1 Preamble Setting

Click **Switching** > **Bandwidth Control**->**Preamble Setting** in the navigation panel to bring up the screen shown below.

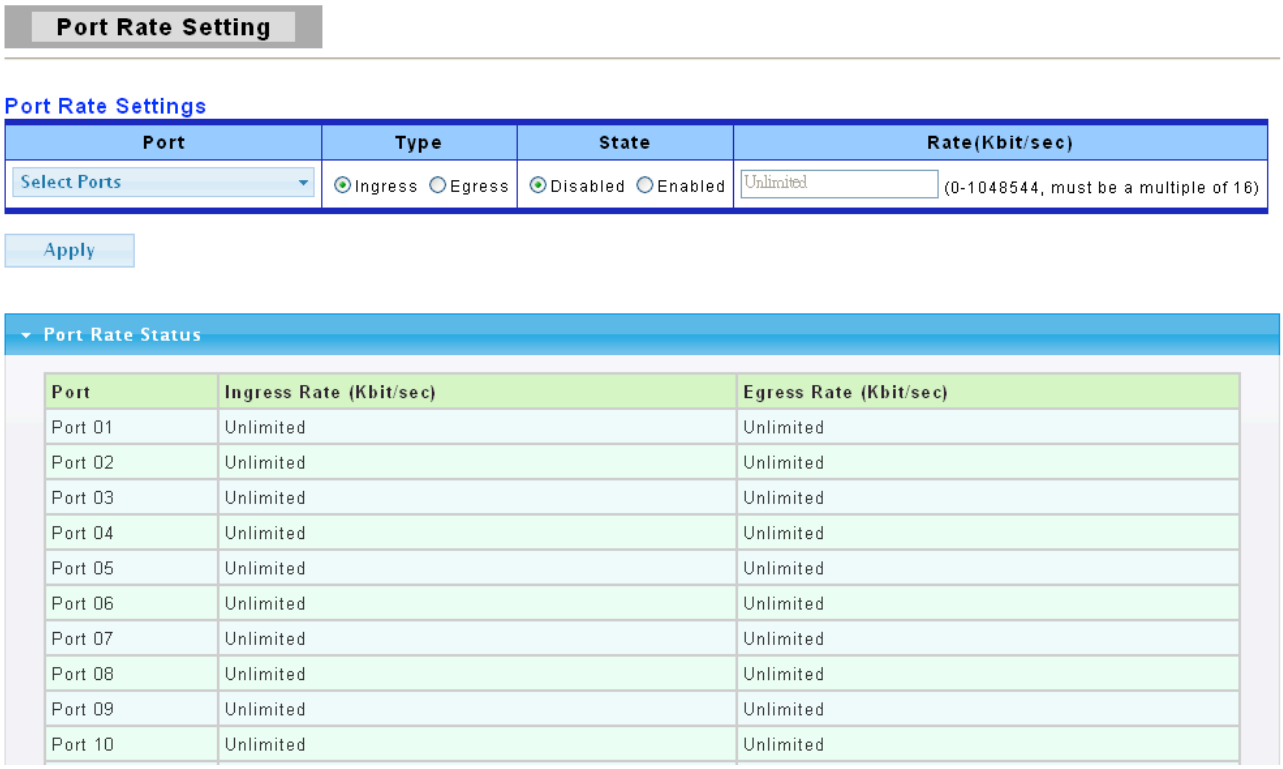


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Ingress Preamble & IFG	Select the mode of ingress preamble & IFG: · **Excluded:** exclude preamble & IFG (20 bytes) when count ingress bandwidth rate. · **Included:** include preamble & IFG (20 bytes) when count ingress bandwidth rate.
Egress Preamble & IFG	Select the mode of egress preamble & IFG: · **Excluded:** exclude preamble & IFG (20 bytes) when count egress bandwidth rate. · **Included:** include preamble & IFG (20 bytes) when count egress bandwidth rate.
Apply	Click **Apply** to save your changes to the switch.

3.3.6.2 Port Rate Setting

Click **Switching** > **Bandwidth Control**-> **Port Rate Setting** in the navigation panel to bring up the screen shown below.



The following table describes the labels on this screen.

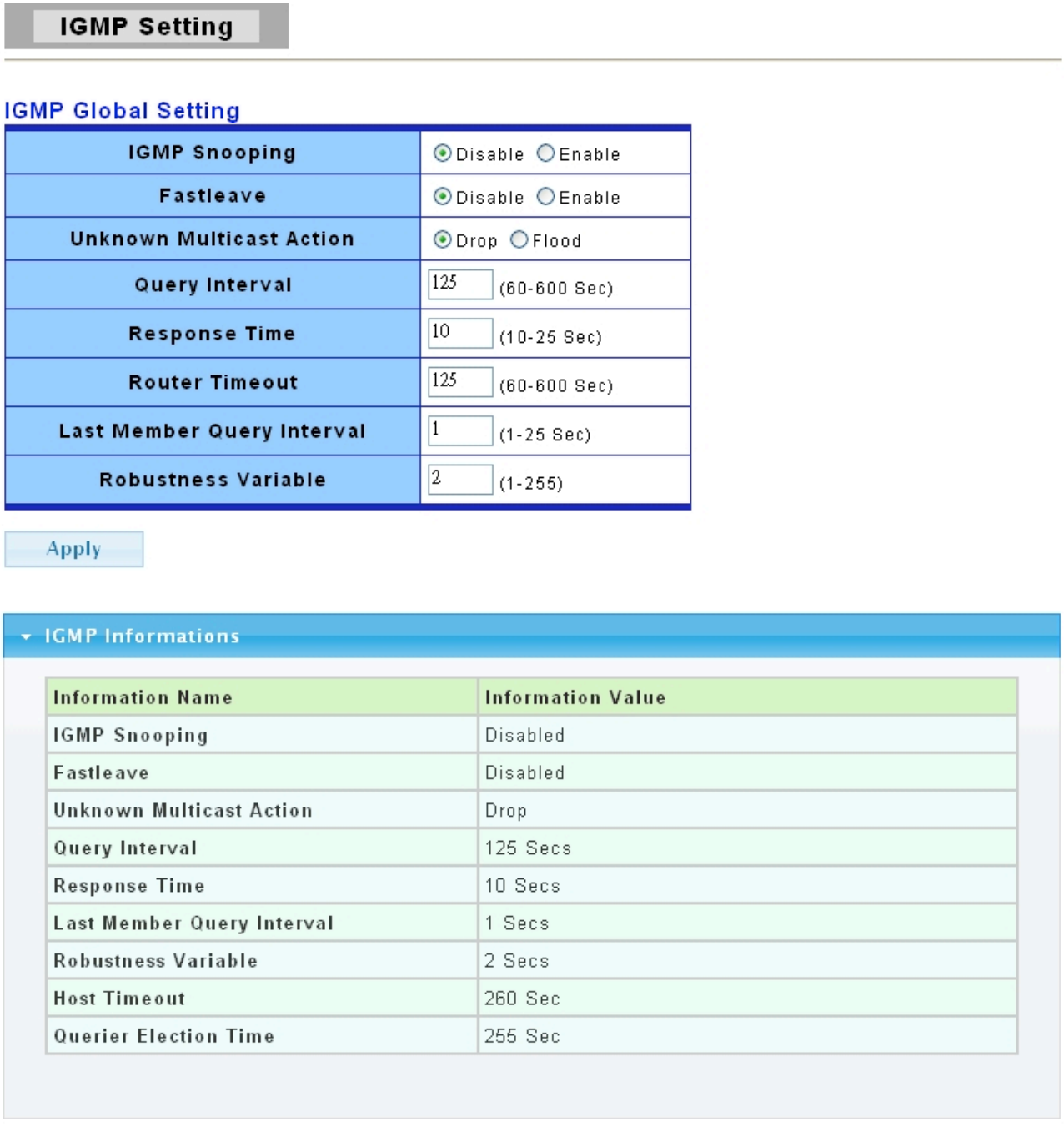
LABEL	DESCRIPTION
Port	Select the ports to enable bandwidth control on.
Type	Select the type of traffic to control: **Ingress** (incoming) or **Egress** (outgoing).
State	Select **Enable** to activate bandwidth control on the selected ports. Select **Disable** to turn off bandwidth control on the selected ports.
Rate (Kbit/sec)	Configure the desired bandwidth available to the port's traffic flow. Traffic that exceeds the maximum bandwidth allocated (in cases where the network is congested) is dropped. Specify the bandwidth in kilobits per second (kbps). Enter a number between 0 and 1048544. The number must be a multiple of 16.
Apply	Click **Apply** to save your changes to the switch.
Port	This field displays the port number.
Ingress Rate (Kbit/sec)	This field displays the maximum bandwidth allowed for incoming traffic on the port in kilobits per second (kbps). The default setting is **Unlimited**.
Egress Rate (Kbit/sec)	This field displays the maximum bandwidth allowed for outgoing traffic on the port in kilobits per second (kbps). The default setting is **Unlimited**.

3.3.7 IGMP Snooping

Use the Switching pages to configure settings for the switch network interface and how the switch connects to a remote server to get services.

3.3.7.1 IGMP Setting

Click **Switching** > **IGMP Snooping** > **IGMP Setting** to access the screen below.

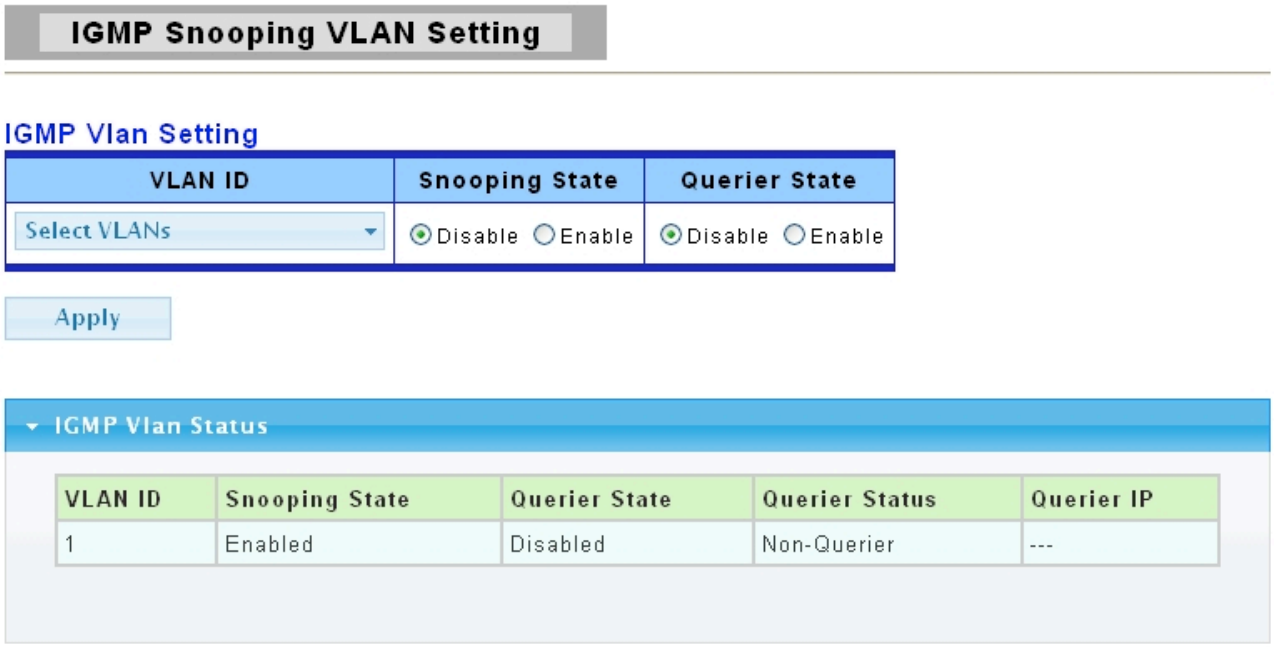


The following table describes the labels on this screen.

LABEL	DESCRIPTION
IGMP Snooping	Select **Enable** from the drop-down box to enable IGMP Snooping. Select **Disable** to not to use IGMP Snooping. When enabled, it simply monitors the IGMP packets passing through it, picks out the group registration information, and configures the multicast filters accordingly.
Fastleave	Select **Enable** from the drop-down box to enable IGMP Fast-Leave. Select **Disable** to not to use IGMP Fast-Leave.
Unknown Multicast Action	Unknown multicast message to the switch. Enable **Drop** to throw away the unknown multicast message. Enable **Flood** to flood the packets.
Query Interval	The query interval is the amount of time in seconds between IGMP General Query messages sent by the router (if the router is the querier on this subnet). You can also click the scroll arrows to select a new setting. The default query interval is 125 seconds.
Response Time	The time a generic system or functional unit takes to react to a given input. The default value is 10s.
Router Timeout	Save the time of the router port timer in the form. The default value is 125s.
Last Member Query Interval	The interval that Querier-switch sends Group-Specific Queriers when it receives a Leave Group message for a group.
Robustness Variable	The robustness variable is a way of indicating how susceptible the subnet is to lost packets. IGMP can recover from robustness variable minus 1 lost IGMP packets. You can also click the scroll arrows to select a new setting. The robustness variable should be set to a value of 2 or greater. The default robustness variable value is 2.
Apply	Click **Apply** to save your changes to the switch.
Host Timeout	Save the timer related to the host and its member. The default value is 260s.
Querier Election Time	It displays the querier election time.

3.3.7.2 IGMP VLAN Setting

Click **Switching** > **IGMP Snooping** > **IGMP VLAN Setting** to access the screen below.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
VLAN ID	Select the VLANs to configure.
Snooping State	Select **Enable** from the drop-down box to enable IGMP. Select **Disable** to not use IGMP.
Querier State	Select **Enable** from the drop-down box to enable IGMP Querier Election. Select **Disable** to not use IGMP Querier Election.
Apply	Click **Apply** to save your changes to the switch.
Querier Status	It displays the status of querier.
Querier IP	It shows the Querier IP of IGMP VLAN.

3.3.7.3 Multicast Database

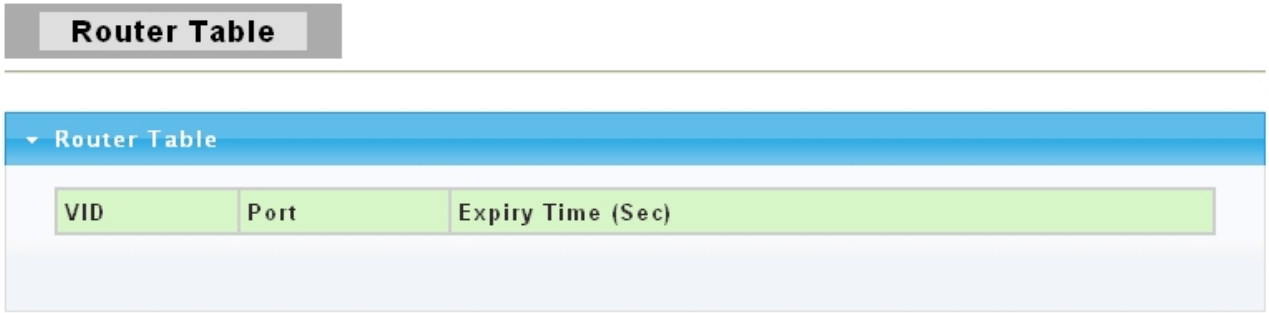
Click **Switching** > **IGMP Snooping** > **Multicast Database** to access the screen below.

The following table describes the labels on this screen.

LABEL	DESCRIPTION
DIP Address	This field displays IP address of this group.
VID	This field displays ID of configured VLAN (1~4094).
Member Port	This field displays the ports that selected in the group address.
Life(Sec)	This field displays the life time of this group.

3.3.7.4 Router Table

Click **Switching** > **IGMP Snooping** > **Router Table** to access the screen below.



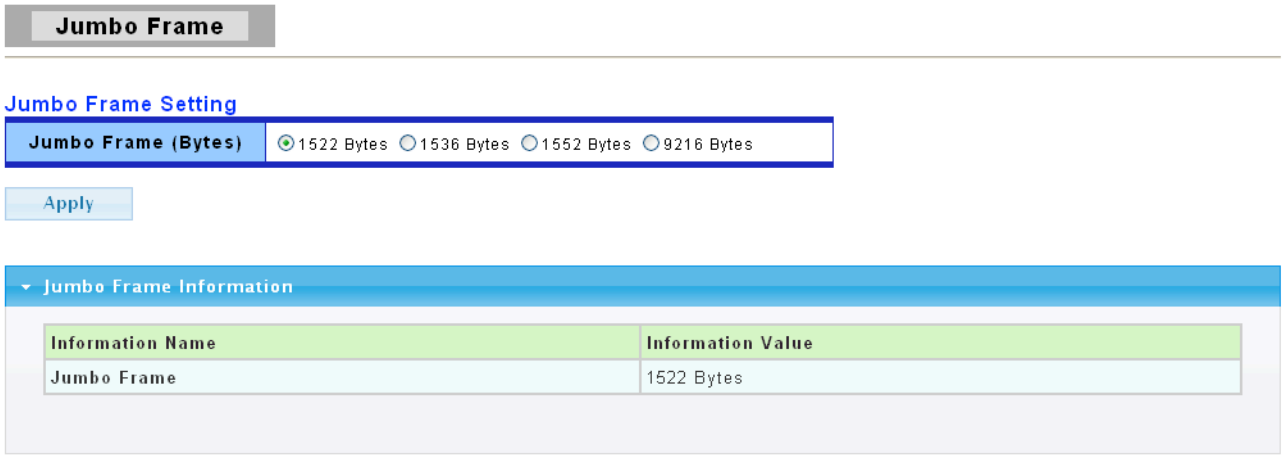
The following table describes the labels on this screen.

LABEL	DESCRIPTION
VID	The VLAN ID that has router port.
Port	Router port (i.e., the port ID where IGMP Query message received).
Expiry Time(Sec)	This field displays the expiry time of the router port.

3.3.8 Jumbo Frame

This page allows the user to configure switch port jumbo frame settings.

Click **Switching** > **Jumbo Frame** in the navigation panel to bring up the screen shown below.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
Jumbo Frame (Bytes)	Specify the maximum Jumbo Frame size in bytes from **0** to **9216**.
Apply	Click **Apply** to save any changes to the switch.

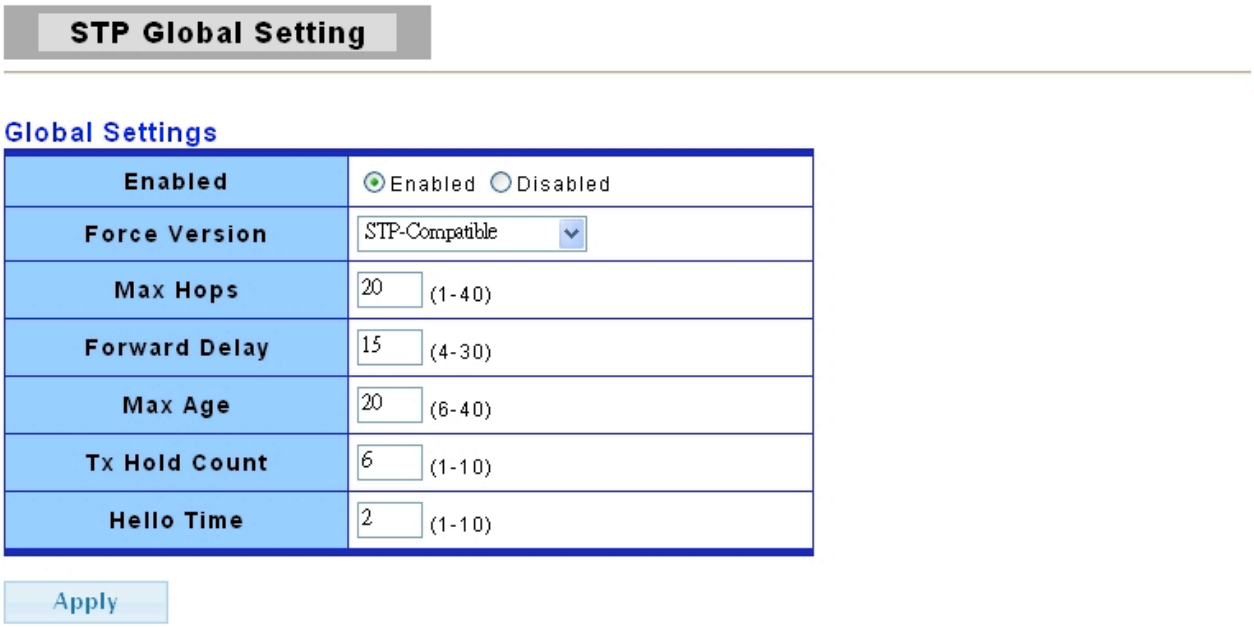
3.3.9 STP

The Spanning Tree Protocol (STP) is a network protocol that ensures a loop-free topology for any bridged Ethernet local area network.

3.3.9.1 STP Global Setting

Use the **SPT Global Setting** screen to activate one of the STP modes on the switch.

Click **Switching** > **STP** > **STP Global Setting**.



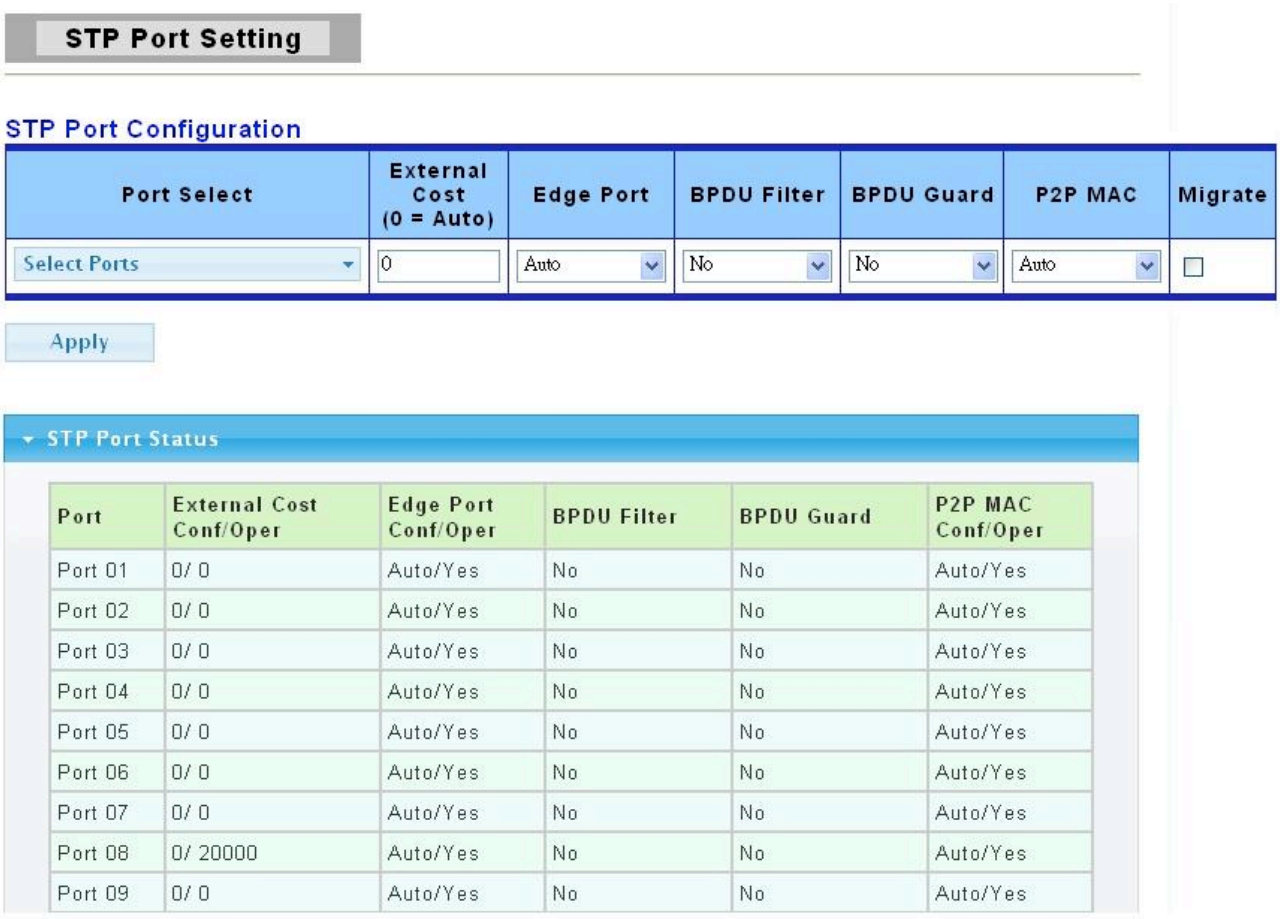
The following table describes the labels on this screen.

LABEL	DESCRIPTION
Enabled	Select **Enabled** to use Spanning Tree Protocol (STP) or Rapid Spanning Tree Protocol (RSTP). Select **Disabled** to not use STP or RSTP.
Force Version	Select the operating mode of STP. · **STP-Compatible:** 802.1D STP operation. · **RSTP-Operation:** 802.1w operation. · **MSTP-Operation:** 802.1s operation.
Max Hops	Set the value of the maximum number of hops in the region. Enter a number between 1 and 40 as the max number of hops.
Forward Delay	Set the delay time an interface takes to change from blocking state to forwarding state. This is the maximum time (in seconds) the switch will wait before changing states. This delay is required because every switch must receive information about topology changes before it starts to forward frames. In addition, each port needs time to listen for conflicting information that would make it return to a blocking state; otherwise, temporary data loops might result. The allowed range is 4 to 30 seconds.

	As a general rule: Note: 2 * (Forward Delay – 1) >= Max Age >= 2 * (Hello Time + 1)
Max Age	Set the time any switch should wait before trying to change the STP topology after unhearing Hello BPDU.
Tx Hold Count	Set the Transmit Hold Count used to limit BPDU transmission rate. Enter a number between 1 and 10 as the Tx hold count.
Hello Time	Set the interval between periodic transmissions of BPDU by Designated Ports. This is the time interval (in seconds) at which the root switch transmits a configuration message. The root bridge determines Hello Time, Max Age and Forward Delay.
Apply	Click **Apply** to save your changes to the switch.

3.3.9.2 STP Port Setting

Click **Switching** > **STP** > **STP Port Setting**.



The following table describes the labels in this screen.

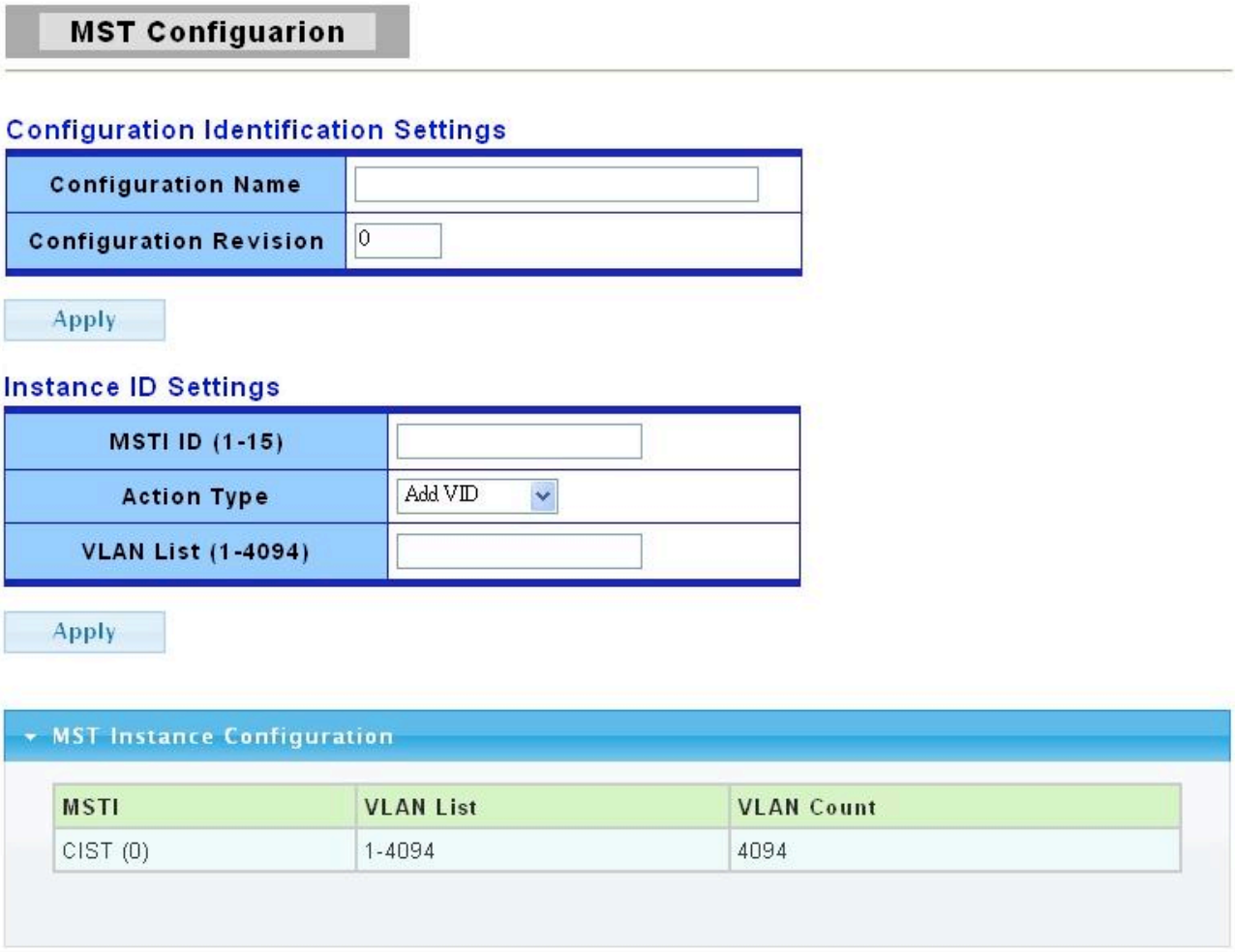
LABEL	DESCRIPTION
Port Select	Select the port(s) to change Spanning Tree Protocol settings for.
External	Path cost is the cost of transmitting a frame on to a LAN through that port. It is

Cost	recommended to assign this value according to the speed of the bridge. The slower the media, the higher the cost. Entering 0 means the switch will automatically assign a value.
Edge Port	Set the edge port configuration: · **No:** Force to false state (as link to a bridge). · **Yes:** Force to true state (as link to a host). · **Auto:** Auto-detect.
BPDU Filter	Set the BPDU Filter configuration: · **No:** Disable BPDU Filter function. · **Yes:** Enable BPDU Filter function. To avoid transmitting BPDU from the specified ports
BPDU Guard	Set the BPDU Guard configuration: · **No:** Disable BPDU Guard function. · **Yes:** Enable BPDU Guard function. To drop directly the received BPDU from the specified ports
P2P MAC	Set the Point-to-Point port configuration: · **No:** Force to false state. · **Yes:** Force to true state. · **Auto:** Auto-detect (according to duplex).
Migrate	Click the square choice box to enable this function. Force to try to use the new MST/RST BPDUs, and hence to test the hypothesis that all legacy systems that do not understand the new BPDU formats have been removed from the LAN segment on the port(s).
Apply	Click **Apply** to save your changes to the switch.

3.3.9.3 MST Configuration

MST is the acronym of Minimum Spanning Tree.

Click **Switching** > **STP** > **MST Configuration**.

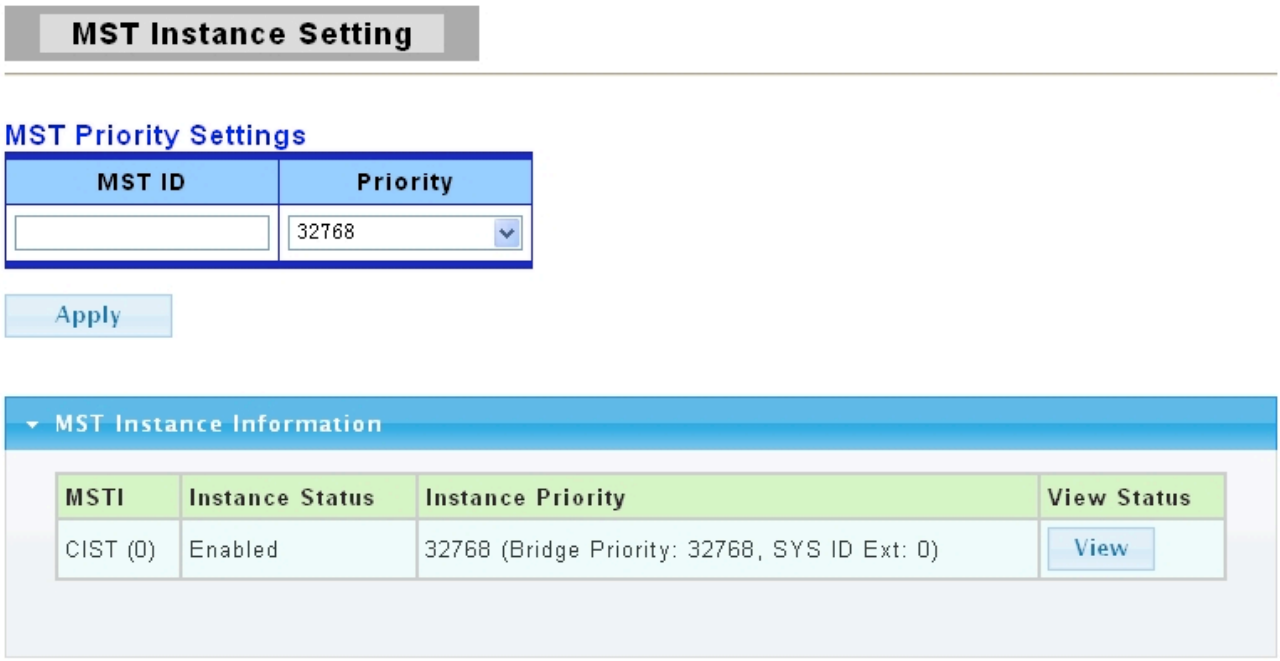


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Configuration Name	You can manually set the configuration name for identification.
Configuration Revision	You can manually set the configuration revision for identification. (Range: 0-65535)
Apply	Click **Apply** to save your changes to the switch.
MSTI ID	MSTI is MST Configuration ID. Enter a number between 1 and 15 as the MSTI ID.
Action Type	Select the action type: · **Add VID:** Add the VLANs in the VLAN list to the specified MST instance. · **Remove VID:** Remove the VLANs in the VLAN list from the specified MST instance.
VLAN List	Enter a number between 1 and 4094 as the VLAN List..
MSTI	It displays the CIST's number.
VLAN List	It displays the list of VLANs.
VLAN Count	It displays the count number of VLANs.

3.3.9.4 MST Instance Setting

Click **Switching** > **STP** > **MST Instance Setting**.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
MST ID	You can manually set the MST ID to specify MST instance.
Priority	You can manually set the Bridge Priority in the specified MST instance.
Apply	Click **Apply** to save your changes to the switch.
MSTI	It displays the CIST's number.
Instance Status	It displays the status of MST instance.
Instance Priority	It displays the priority of MST instance.
View Status	Click **View** to view the status of MST instance.

3.3.9.5 MST Port Setting

Click **Switching** > **STP** > **MST Port Setting**.

MST Port Setting

MST Port Configuration

Port Select	MST ID	Internal Path Cost (0 = Auto)	Priority
Select Ports		0	128

Apply

STP Port Status

Port	MSTI ID	Designated Bridge	Internal Path Cost Conf/Oper	Port Priority	Port Role	Port State
Port 01	0	0/00:00:00:00:00:00	0/ 0	128	Disabed	Disabled
Port 02	0	0/00:00:00:00:00:00	0/ 0	128	Disabed	Disabled
Port 03	0	0/00:00:00:00:00:00	0/ 0	128	Disabed	Disabled
Port 04	0	0/00:00:00:00:00:00	0/ 0	128	Disabed	Disabled
Port 05	0	0/00:00:00:00:00:00	0/ 0	128	Disabed	Disabled
Port 06	0	0/00:00:00:00:00:00	0/ 0	128	Disabed	Disabled
Port 07	0	0/00:00:00:00:00:00	0/ 0	128	Disabed	Disabled
Port 08	0	32768/DE:AD:BE:EF:01:02	0/ 20000	128	Designated	Forwarding

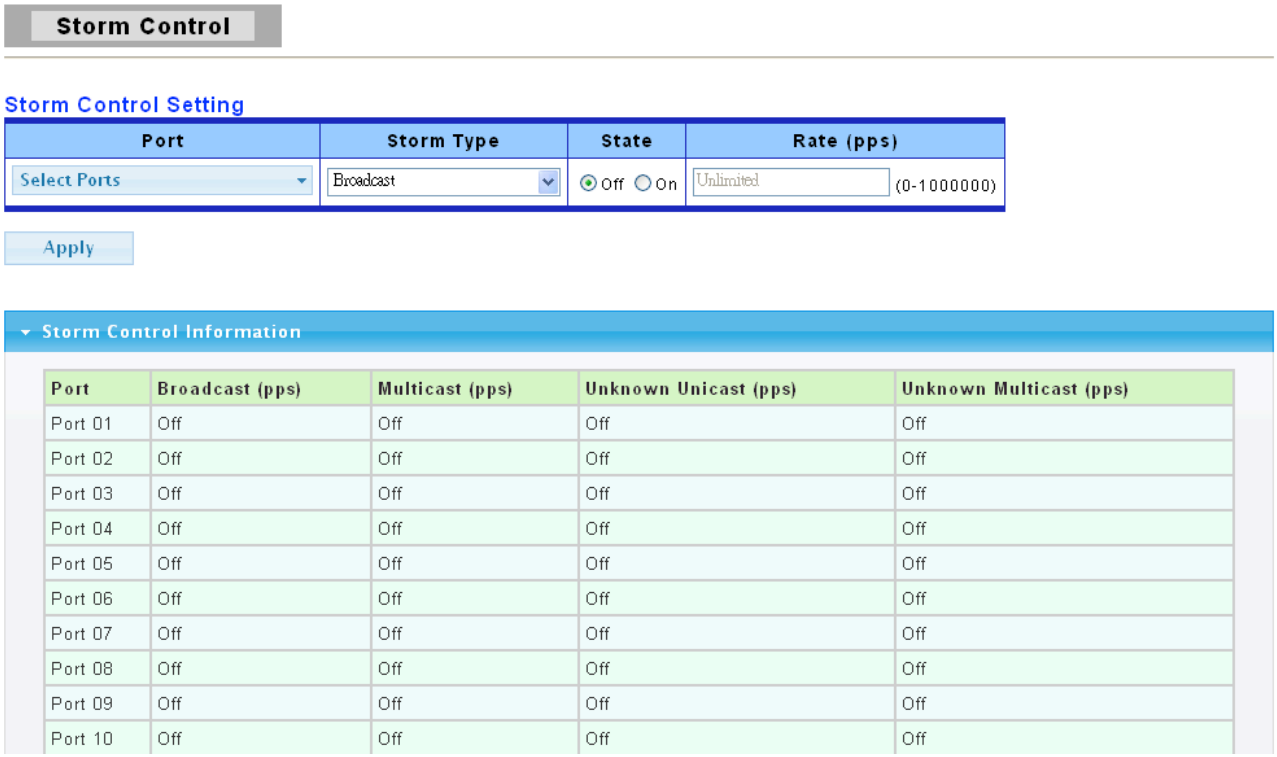
The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port Select	Select the port(s) that will use MST setting.
MST ID	You can manually set the MST ID to specify MST instance.
Internal Path Cost	You can manually set the internal path cost to the selected ports in the specified MST instance. (0 means “Auto”)
Priority	You can manually set the priority to the selected ports in the specified MST instance.
Apply	Click **Apply** to save your changes to the switch.
Port	It displays the port you have chosen.
MSTI ID	It displays the MSTI ID of the chosen port.
Designed Bridge	It displays the designed bridge of the chosen port.

Internal Path Cost	It displays the internal path cost of the chosen port.
Port Priority	It displays the port priority you have set.
Port Role	It displays the port role of the chosen port.
Port State	It displays the port state of the chosen port.

3.4 Security

3.4.1 Storm Control



The following table describes the labels on this screen.

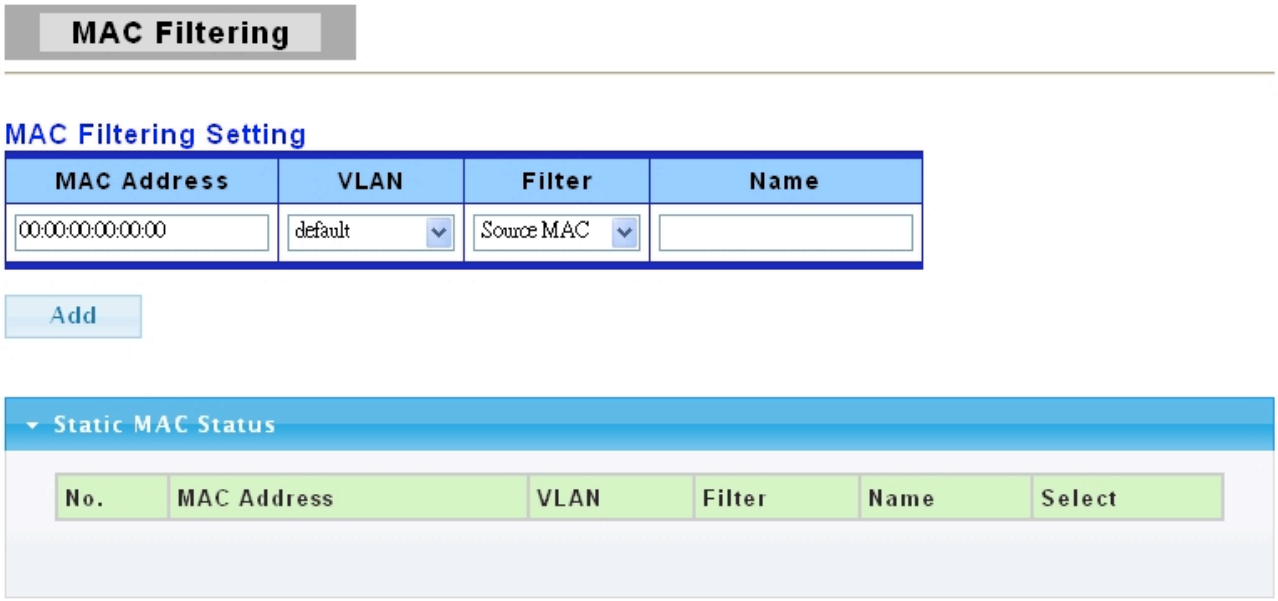
LABEL	DESCRIPTION
Port	Select the port(s) that will use storm control.
Storm Type	Select the type of packets to be limited with the Storm Control feature. · **Broadcast:** Broadcast packet · **Multicast:** All multicast packet, including known and unknown multicast. · **Unknown Unicast:** Unknown unicast packet. · **Unknown Multicast:** Unknown multicast packet.
State	Select **On** to enable traffic storm control on the Switch. Select **Off** to disable this feature.
Rate (pps)	Type a packet per second (pps) rate between 0 and 1000000. This is the maximum amount of packets of the type selected previously allowed to be transferred to the Switch per second. Any subsequent packets are discarded.

Apply	Click **Apply** to save your changes to the Switch.
Port	This field displays the port number.
Broadcast (pps)	This field displays how many broadcast packets the port can receive per second.
Multicast (pps)	This field displays how many multicast packets the port can receive per second.
Unknown Unicast (pps)	This field displays how many unknown unicast packets the port can receive per second.
Unknown Multicast (pps)	This field displays how many unknown multicast packets the port can receive per second.

3.4.2 MAC Filtering

Use this screen to create rules for traffic going through the switch.

Click **Security**> **MAC Filtering** in the navigation panel to display the screen shown below.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
MAC Address	Type a MAC address to which packets will be filtered in valid MAC address format; that is, six hexadecimal character pairs. And this must be a unicast MAC address.
VLAN	The VLAN ID number of the VLAN on which the above MAC address resides. This function is set default in this switch.
Filter	Select **Source MAC** to drop the frames with the source MAC address (specified in the MAC Address field). Select **Destination MAC** to drop the frames with the destination MAC address (specified in the MAC Address field). Select **Both** to drop frames with the source MAC address and destination MAC address specified in the MAC Address field.

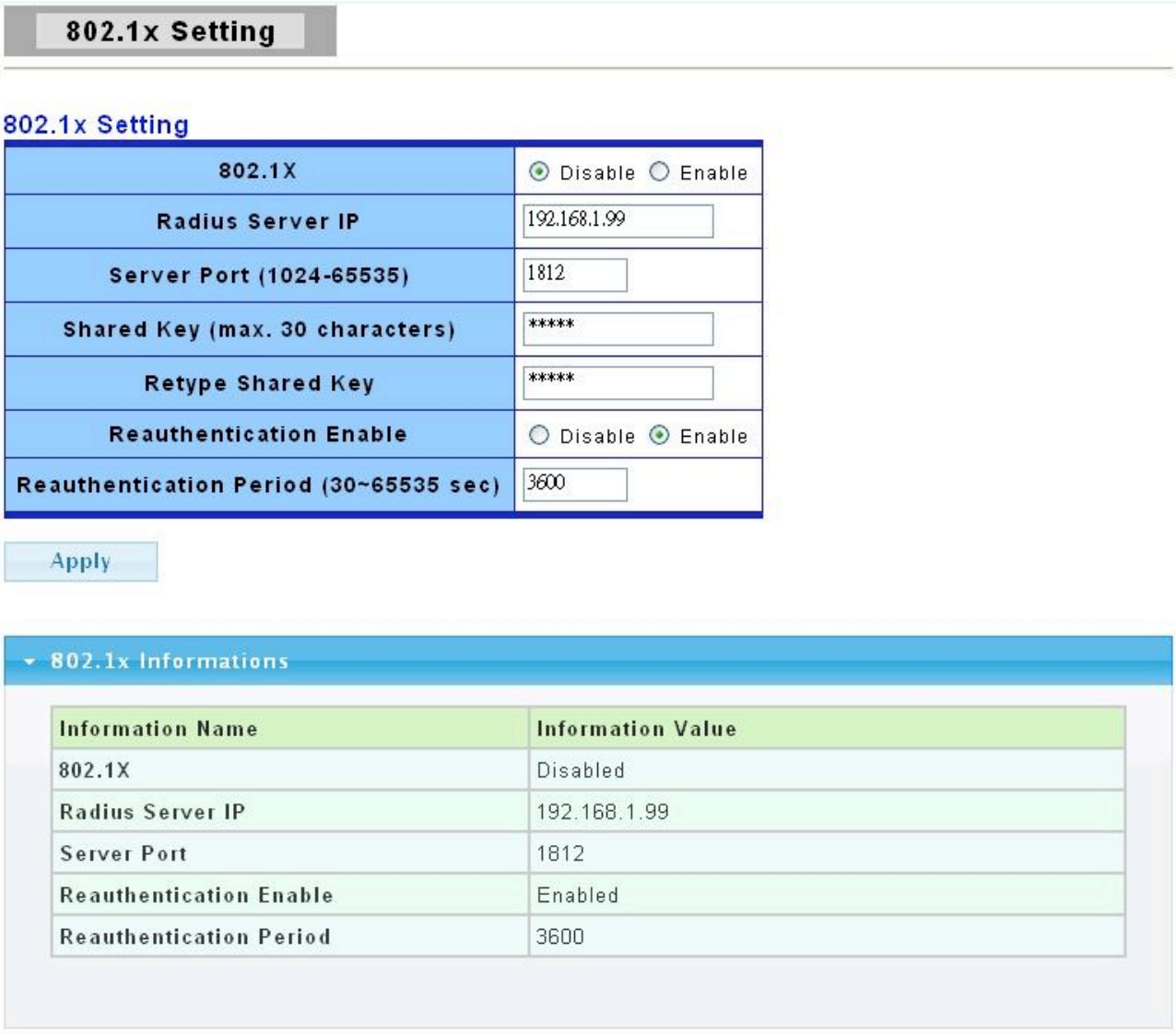
Name	Enter a descriptive name (up to 32 printable ASCII characters) for this filtering rule. This is for identification only.
Add	Click **Add** to add any port into the MAC filtering table.
No.	This is the index number for the MAC filtering rules.
MAC Address	This field displays the MAC address that will be filtered.
VLAN	This is the VLAN group to which the MAC address belongs.
Filter	This field displays the action of the filter.
Name	This field displays the descriptive name for this rule. This is for identification purpose only.
Select	Click on the check box for the MAC filtering rule you want to delete.

3.4.3 802.1X

3.4.3.1 802.1X Setting

Use this screen to activate IEEE 802.1x security and configure RADIUS server settings.

Click **Security** > **802.1x** > **802.1x Setting** to display the configuration screen shown below.



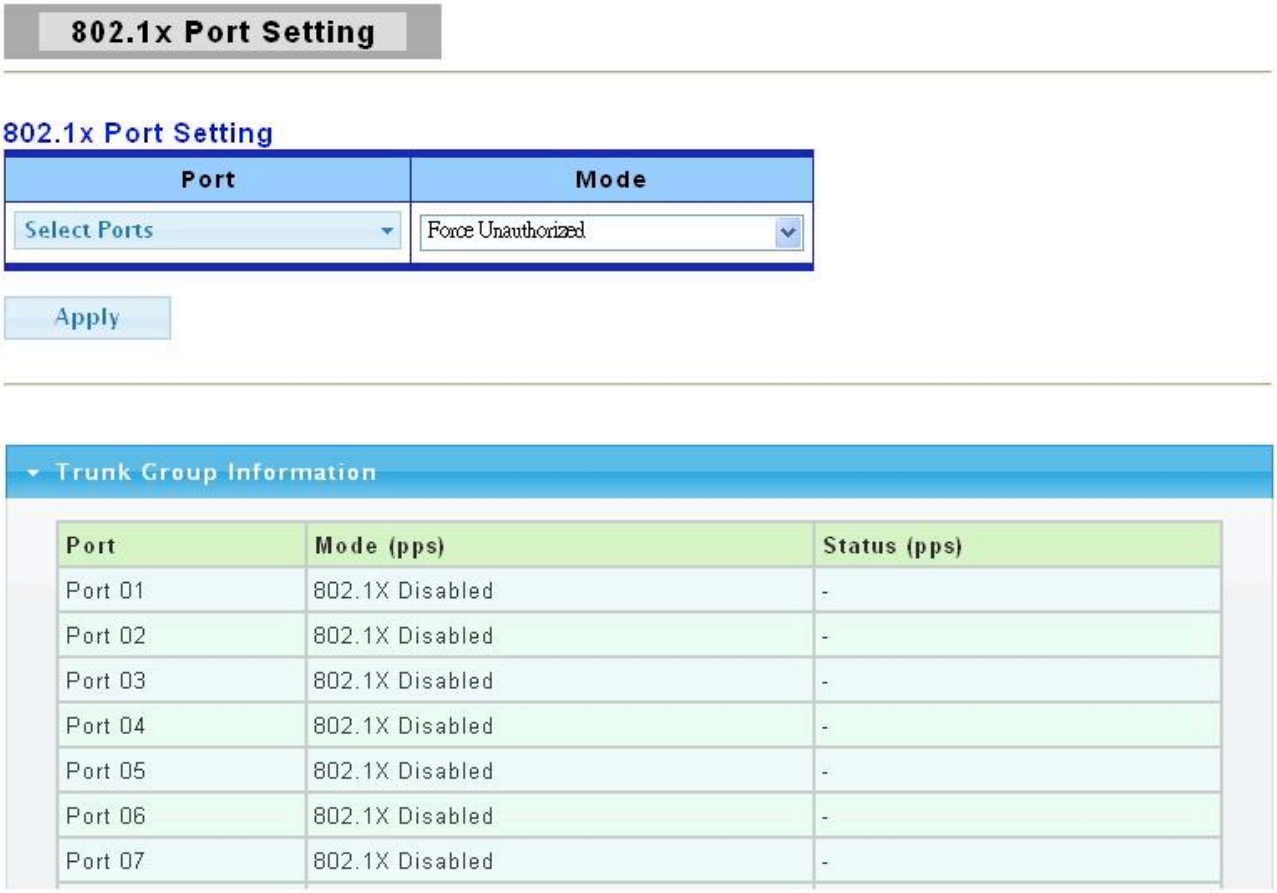
The following table describes the labels on this screen.

LABEL	DESCRIPTION
802.1X	Select **Enable** from the drop-down list box to activate IEEE 802.1x port authentication. Select **Disable** to disable this function.
Radius Server IP	Enter the IP address of an external RADIUS server in dotted decimal notation.
Server Port (1024-65535)	The default port of a RADIUS server for authentication is **1812**. You need not change this value unless your network administrator instructs you to do so.
Shared Key (max. 30 characters)	Specify a password (up to 32 alphanumeric characters) as the key to be shared between the external RADIUS server and the Switch. This key is not sent over the network. This key must be the same on the external RADIUS server and the Switch.
Retype Shared Key	Retype the key specified above to ensure it has been entered correctly.
Reauthentication enable	Specify if a subscriber has to periodically re-enter his or her username and password to stay connected to the port. Select **Enable** and the user has to re-enter his/her username and

	password.
Reauthentication Period (30-65535 sec)	Specify how often a client has to re-enter his or her username and password to stay connected to the port. Set the reauthentication period of 802.1X if reauthentication is enabled.
Apply	Click **Apply** to save your changes to the switch.

3.4.3.2 802.1X Port Setting

Click **Security** > **802.1x** > **802.1x Port Setting** to display the configuration screen shown below.

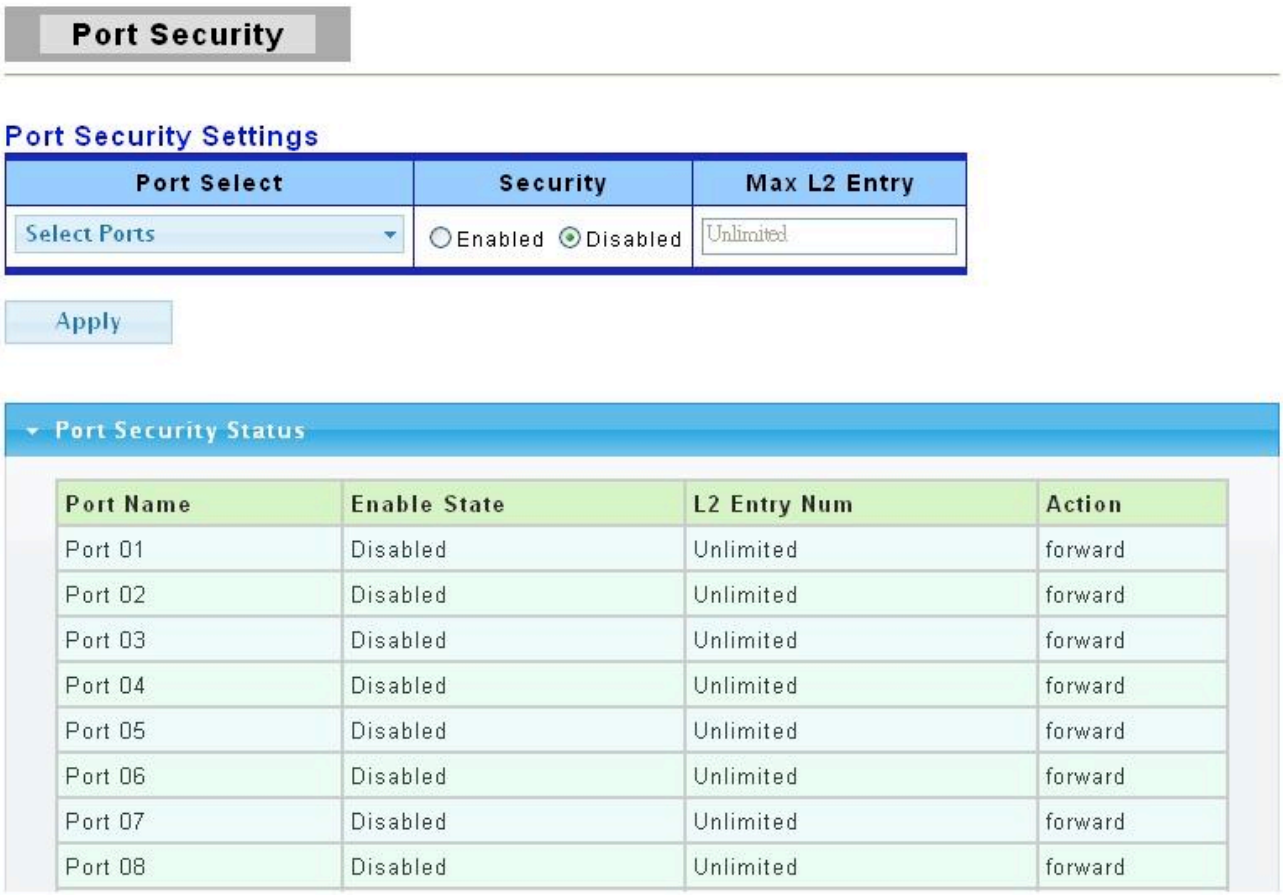


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port	Specify the ports to activate IEEE 802.1x port authentication on.
Mode	Select **Force Unauthorized** to always force this port to be unauthorized. Select **Force Authorized** to always force this port to be authorized. Select **Authorization** to enable 802.1x port authentication. Select **No Authorization** to disable 802.1x port authentication.
Apply	Click **Apply** to save your changes to the Switch.
Port	This field displays the port number.
Mode	This field displays the port's current 802.1x setting.
Status	This field displays the current stage of the 802.1x port authentication procedure.

3.4.4 Port Security

Click **Security** > **Port Security** to display the configuration screen shown below.



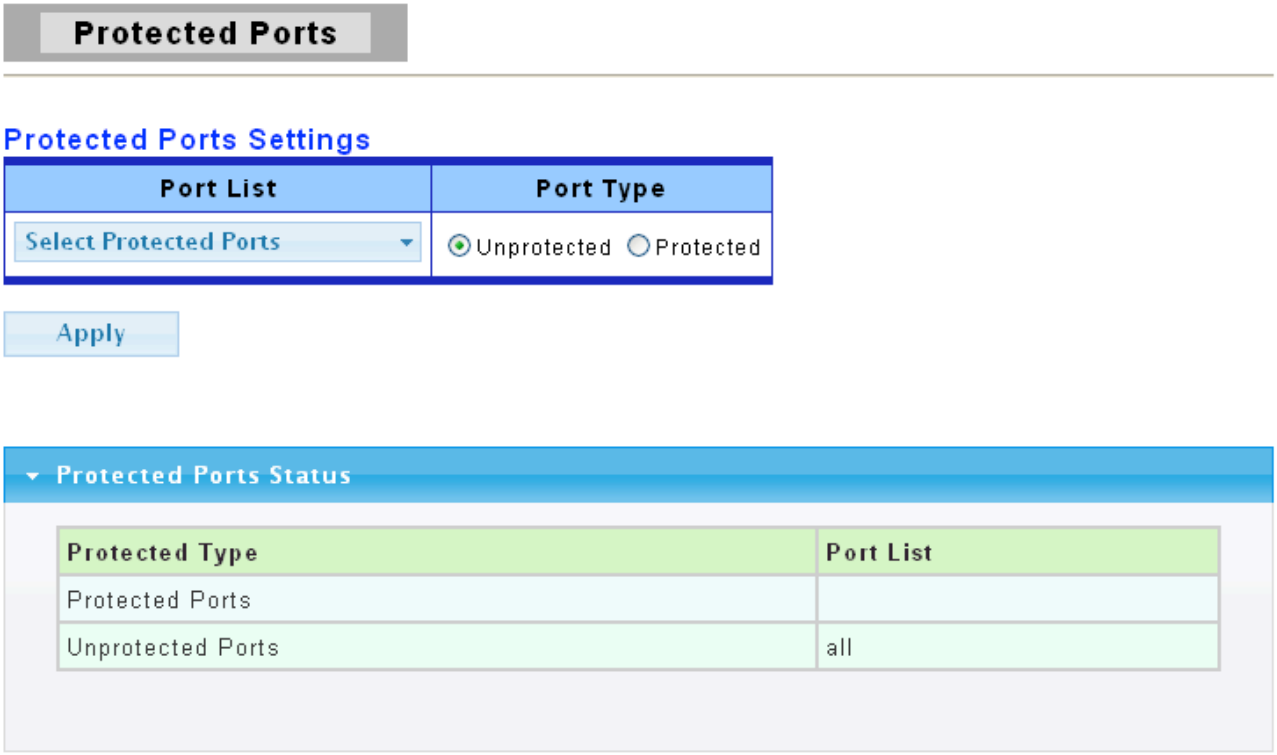
The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port Select	Select the port(s) to configure this setting
Security	Port security function. Select one of the two options: · **Enable:** Enable port security function. · **Disable:** Disable port security function.
Max L2 Entry	Maximum number of Layer 2 entries that assign the MAC address to the port.
Apply	Click **Apply** to save your changes to the Switch.
Port Name	This field displays the port number.
Enable State	This field displays the state of this function (whether it has been enabled or not).
L2 Entry Num	This field displays the maximum number of Layer 2 entries of the MAC addresses.
Action	This field displays the action of the port.

3.4.5 Protected Ports

This page allows the user to configure protected port settings to prevent the selected ports from communicating with each other.

Click **Security** > **Protected Ports** to display the configuration screen as shown below.

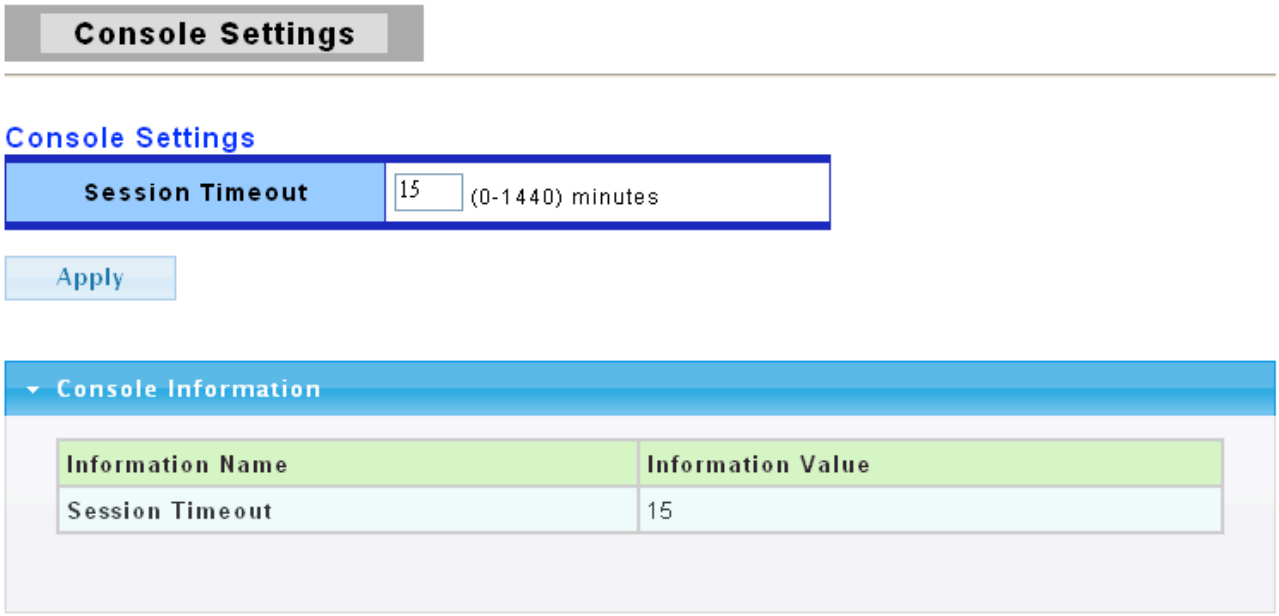


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port List	To select the port to be protected.
Port Type	Configure port protect type: · **Unprotected:** The unprotected port can communicate with all ports. · **Protected:** Prevent protected ports from communicating with each other.
Apply	Click **Apply** to save your changes to the Switch.

3.4.6 Access

3.4.6.1 Console

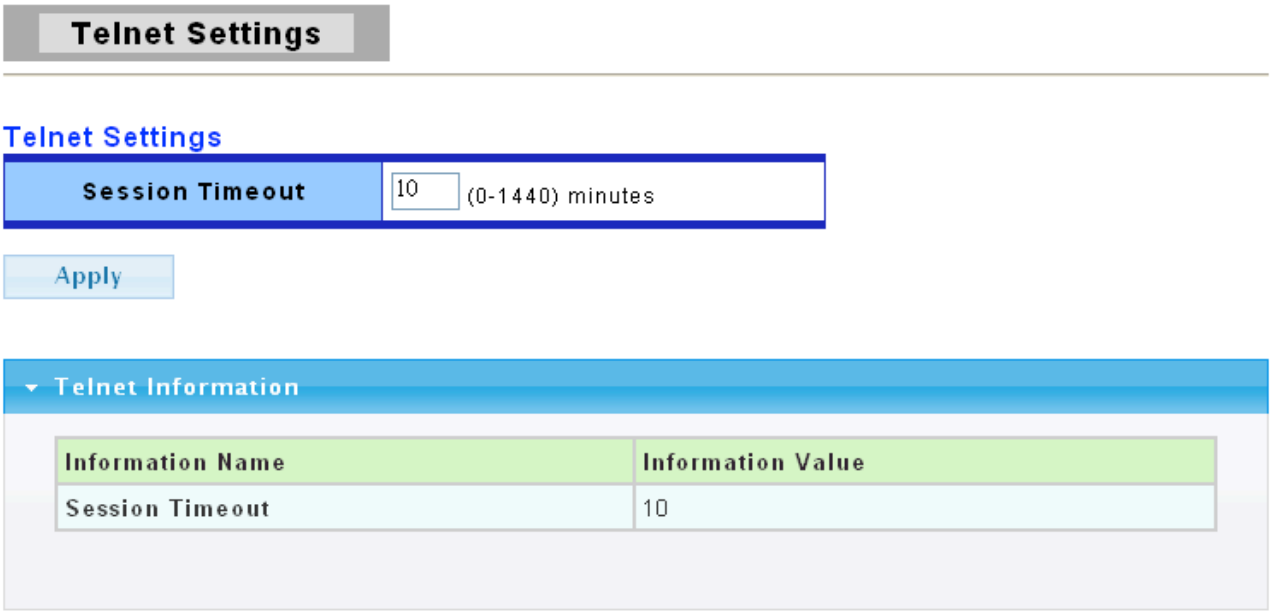


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Session Timeout	Set session timeout minutes for user access of the CLI from the console line. If the user doesn't respond after session timeout, the CLI will log out automatically. Enter a number between 0 and 1440 as the session timeout. 0 minutes means never time out.
Apply	Click **Apply** to save your changes to the Switch.

3.4.6.2 Telnet

Telnet is the TCP/IP standard protocol for remote terminal service. Telnet allows a user at one site to interact with a remote timesharing system at another site as if the user's keyboard and display were connected directly to the remote machine.

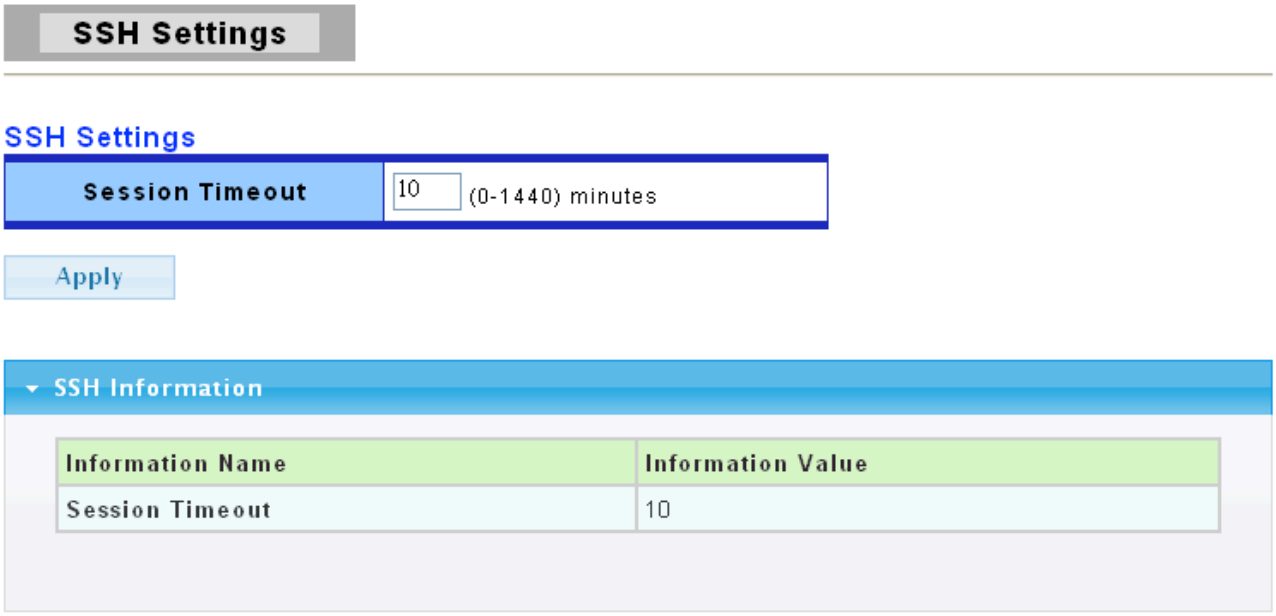


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Session Timeout	Set session timeout minutes for user access of the CLI from a Telnet line. If the user doesn't respond after the session timeout minutes, the CLI will log out automatically. Enter a number between 0 and 1440 as the session timeout. 0 minutes means never time out.
Apply	Click **Apply** to save your changes to the Switch.

3.4.6.3 SSH

SSH stands for Secure Shell.

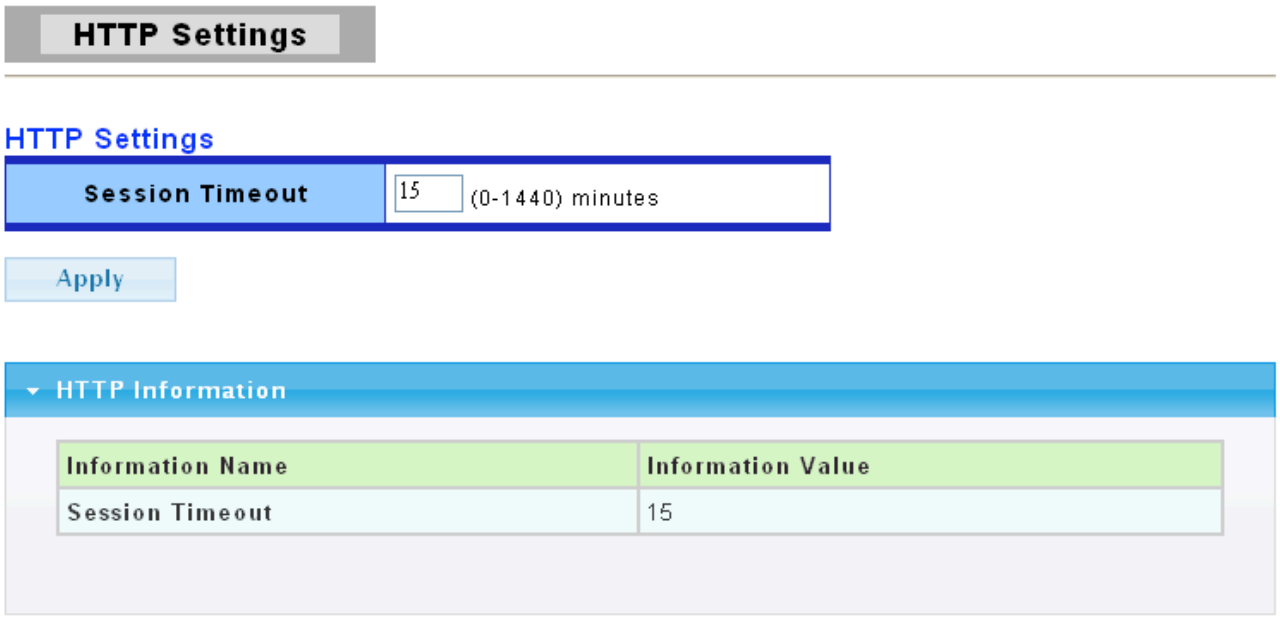


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Session Timeout	Set session timeout minutes for user access to the CLI from an SSH line. If the user doesn't respond after the session timeout minutes, the CLI will log out automatically. Enter a number between 0 and 1440 as the session timeout. 0 minutes means never time out.
Apply	Click **Apply** to save your changes to the Switch.

3.4.6.4 HTTP

HTTP is the acronym for Hyper Text Transfer Protocol.

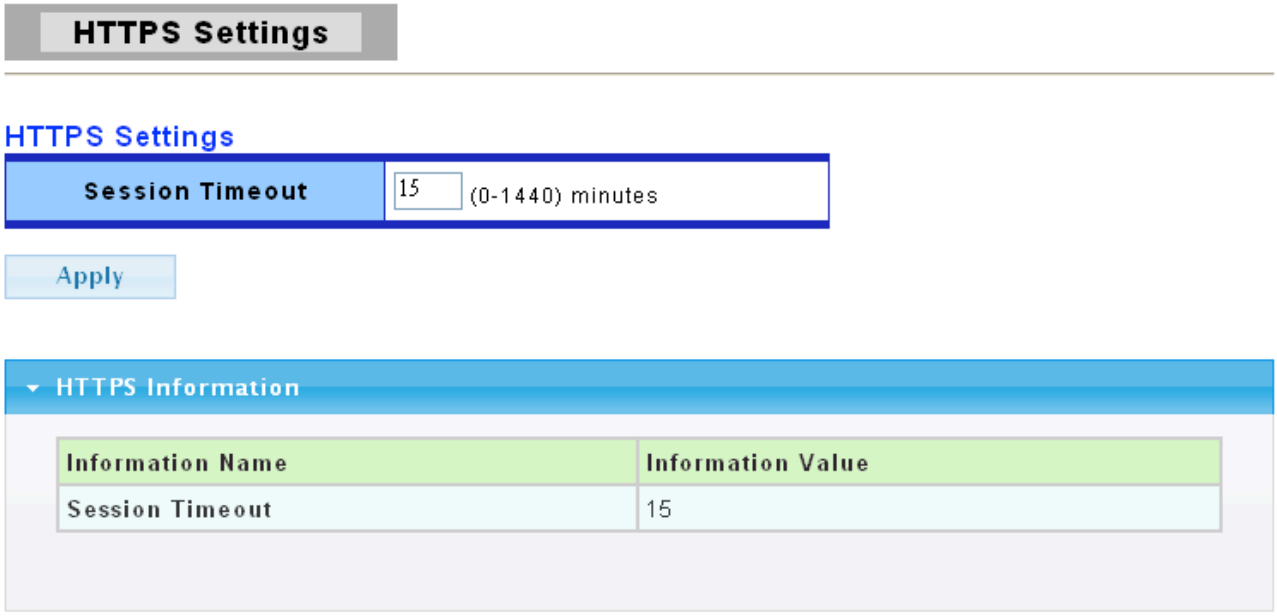


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Session Timeout	Set session timeout minutes for user access to the Web using the HTTP protocol. If the user doesn't respond after the designated session timeout minutes, the Web UI will log out automatically. Enter a number between 0 and 1440 as the session timeout. 0 minutes means never time out.
Apply	Click **Apply** to save your changes to the Switch.

3.4.6.5 HTTPS

HTTPS is the acronym for Hypertext Transfer Protocol over Secure Socket Layer.



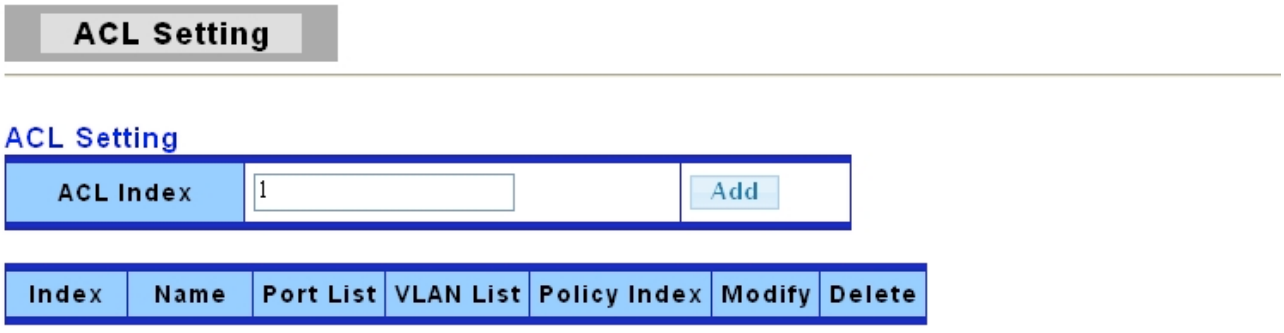
The following table describes the labels in this screen.

LABEL	DESCRIPTION
Session Timeout	Set session timeout minutes for user access to the Web using the HTTPS protocol. If the user doesn't respond after the designated session timeout minutes, the Web UI will log out automatically. Enter a number between 0 and 1440 as the session timeout. 0 minutes means never time out.
Apply	Click **Apply** to save your changes to the Switch.

3.5 ACL

Use the ACL pages to configure settings for the Access Control List.

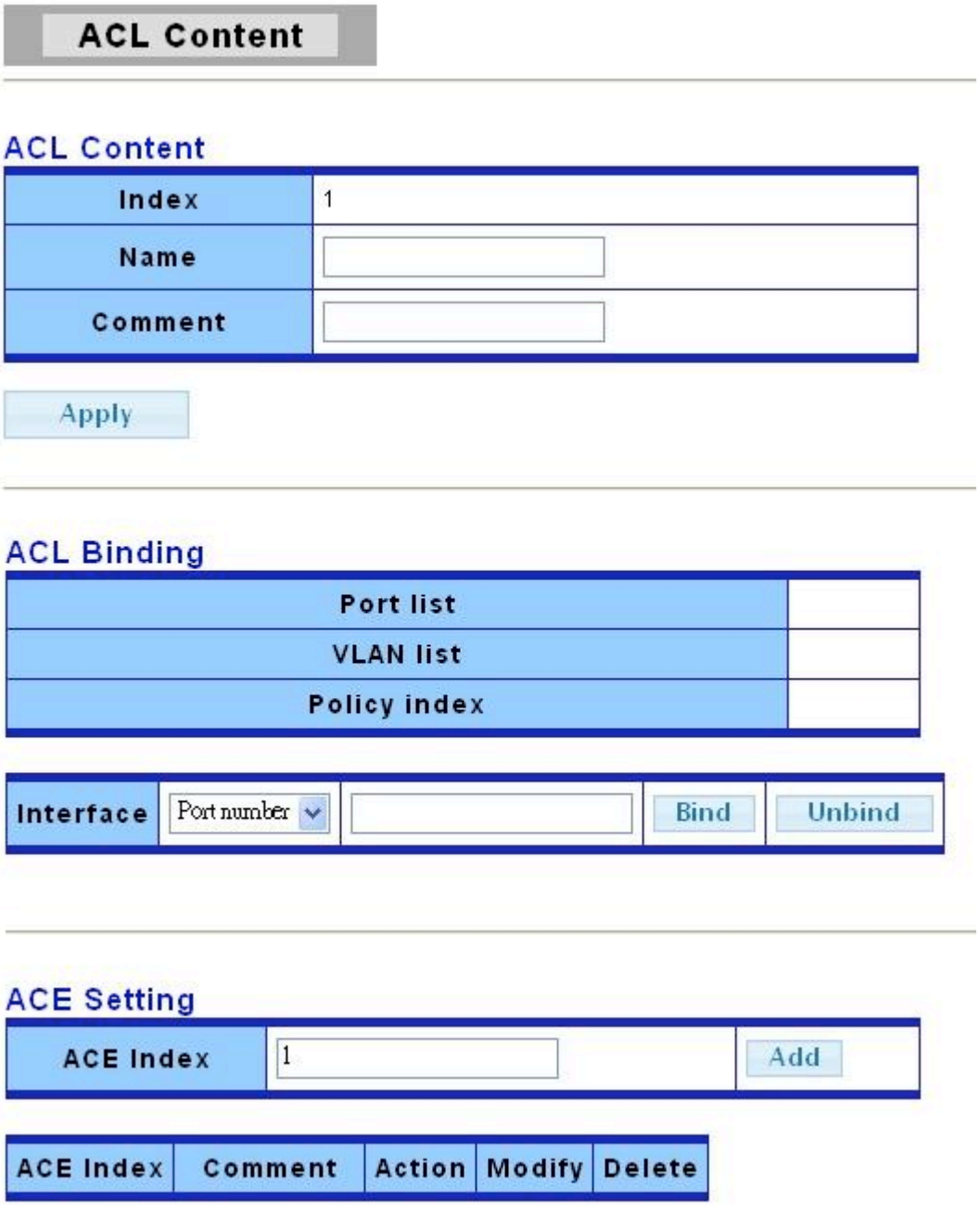
3.5.1 ACL Setting



The following table describes the labels on this screen.

LABEL	DESCRIPTION
ACL Index	You can manually set the ACL Index.
Add	Click **Add** to add the basic information of ACL Index.
Index	It displays the index information.
Name	It displays the name of the index.
Port List	It displays the list of the port.
VLAN List	It displays the list of the VLAN.
Policy Index	It displays the policy index.
Modify	Click **Modify** to modify any setting.
Delete	Click **Delete** to delete any setting.

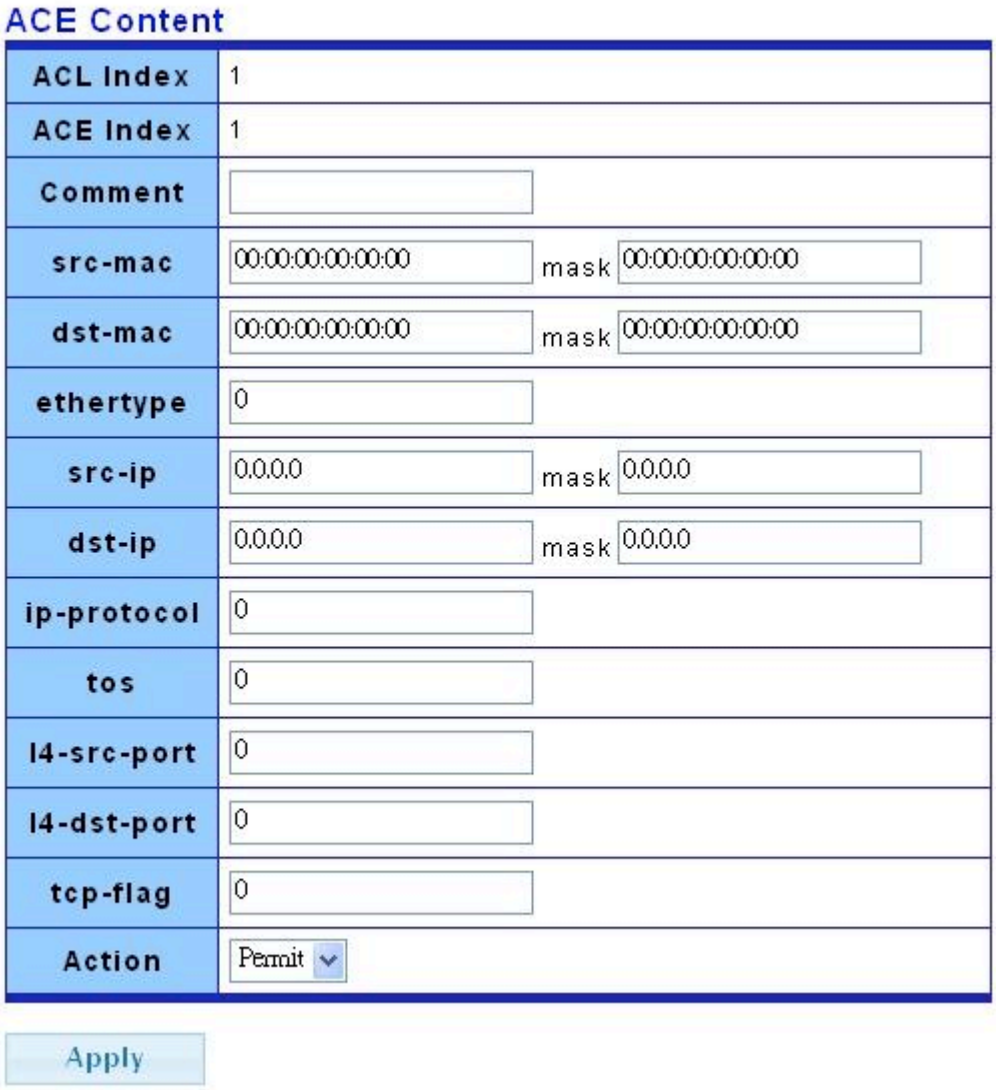
Click **ACL**->**ACL Setting**->**Add** button and the ACL Content Web page displays.



LABEL	DESCRIPTION

Name	Enter ACL name in this field
Comment	Enter ACL comment in this field.
Interface	Select the interface to bind: · **Port number:** Enter port number. · **VLAN ID:** Enter VLAN ID. · **Policy:** Enter policy index.
ACE Index	Enter ACE index in this field to configure ACE.

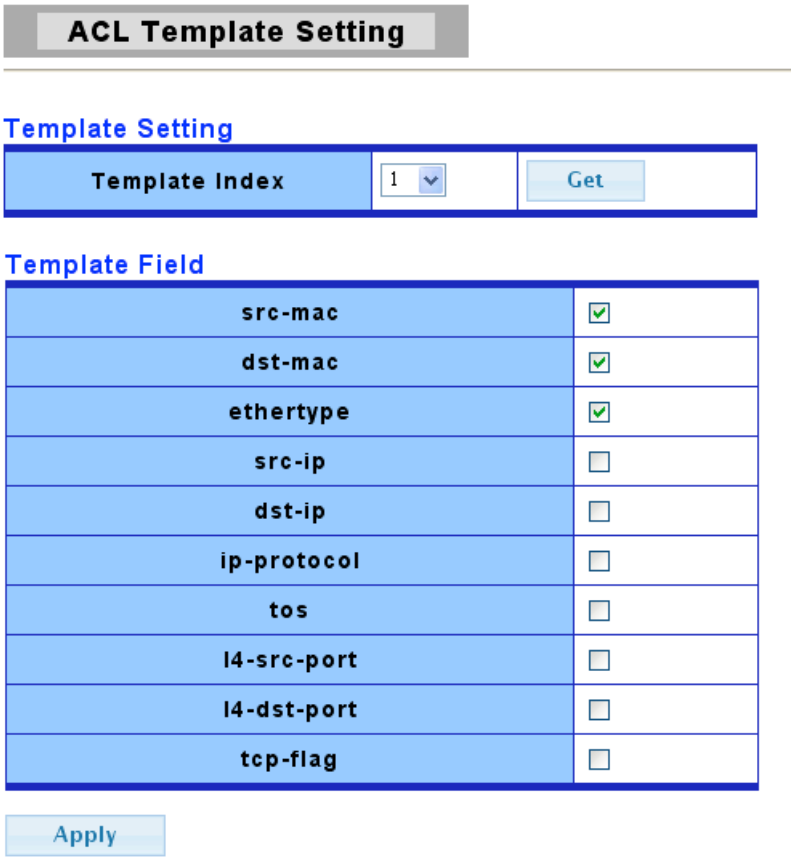
Click **ACL** > **ACL Setting** > **Add** > **Add (in ACE Setting)** button and the ACE Content Web page displays.



LABEL	DESCRIPTION
Comment	Enter ACE comment in this field.
src-mac	Enter source MAC data and mask in this field.
dst-mac	Enter destination MAC data and mask in this field.
ethertype	Enter ethernet type in this field.
src-ip	Enter source IP data and mask in this field.
dst-ip	Enter destination IP data and mask in this field.
ip-protocol	Enter IP protocol in this field.

tos	Enter ToS in this field.
14-src-port	Enter Layer 4 source port in this field.
14-dst-port	Enter Layer 4 destination port in this field.
tcp-flag	Enter TCP flag in this field.
Action	Select the action to take: · **Permit:** permit packet to pass through. · **Deny:** drop packet. Click Apply.

3.5.2 ACL Template Setting

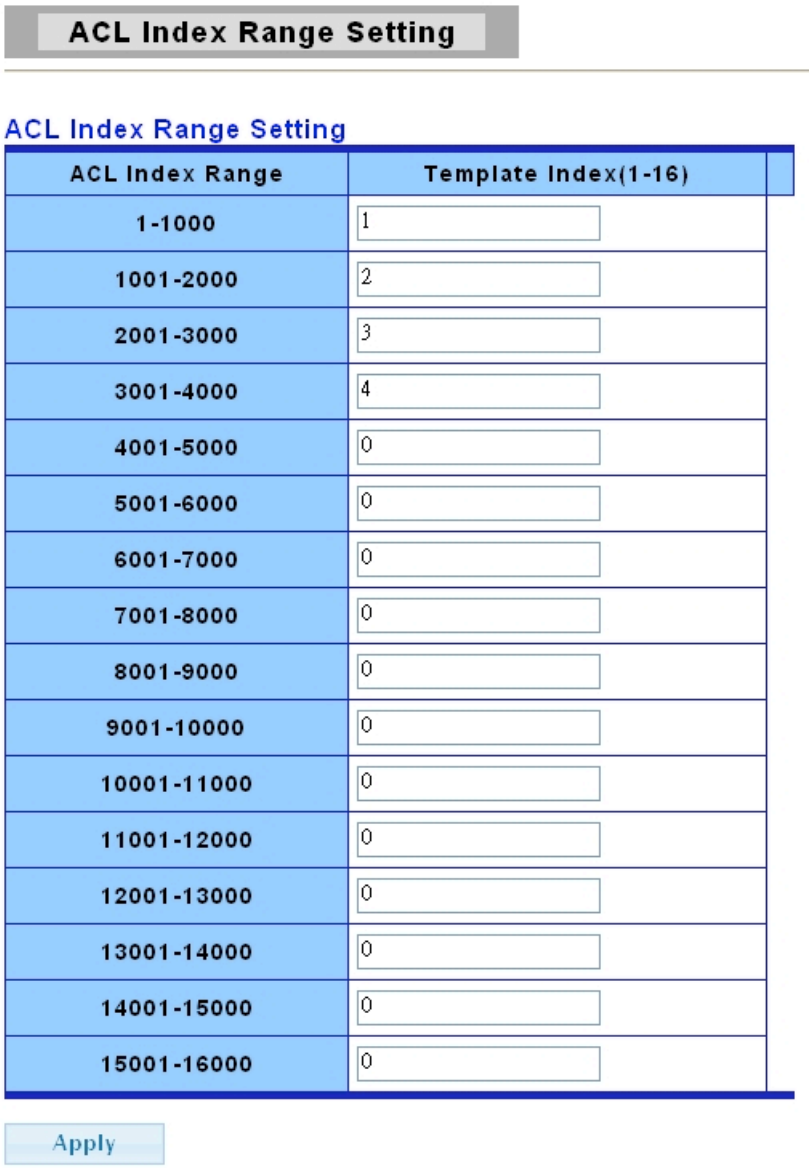


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Template Index	You can choose the template index.
Get	To get the basic information of the policy index.
src-mac	Click in the square box to set source MAC into Template.
dst-mac	Click in the square box to set destination MAC into Template.
ethertype	Click in the square box to set ethernet type into Template.
src-ip	Click in the square box to set source IP into Template.
dst-ip	Click in the square box to set destination IP into Template.
ip-protocol	Click in the square box to set IP protocol into Template.
tos	Click in the square box to set ToS into Template.

14-src-port	Click in the square box to set Layer 4 source port into Template.
14-dst-port	Click in the square box to set Layer 4 destination port into Template.
tcp-flag	Click in the square box to set TCP flag into Template.
Apply	Click **Apply** to save your changes to the switch.

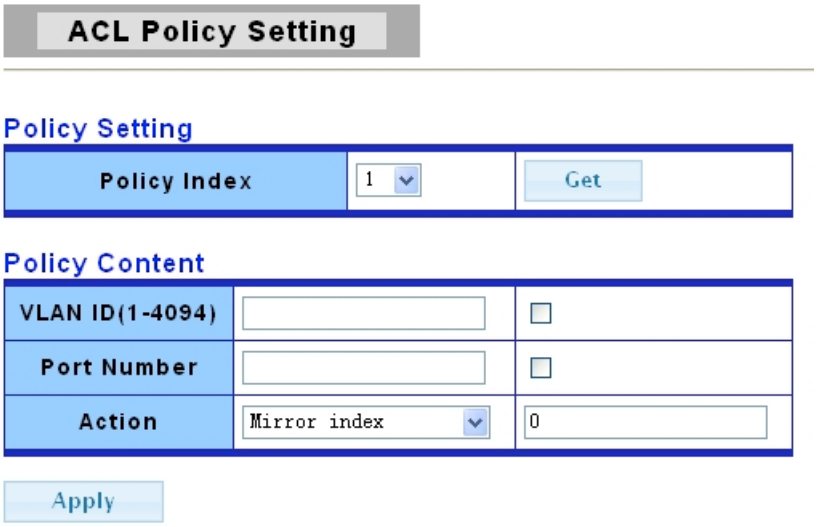
3.5.3 ACL Index Range Setting



The following table describes the labels on this screen.

LABEL	DESCRIPTION
ACL Index Range	It displays the 16 types of ACL index range.
Template Index	Enter Template index mapping to specify the range of the ACL index in this field. Enter a number between 1 and 16 as the template index.

3.5.4 ACL Policy Setting



The following table describes the labels on this screen.

LABEL	DESCRIPTION
Policy Index	You can choose the policy index.
Get	To get the basic information of the policy index.
VLAN ID	Enter a VLAN ID.
Port Number	Enter a port number.
Action	Select the action to take: · **Mirror Index:** mirror the packet via the configuration of the specified mirror index. · **Rate Limit:** limit the packet rate. The increment is 16 kbps. · **Priority:** change the packet priority.
Apply	Click **Apply** to save your changes to the switch.

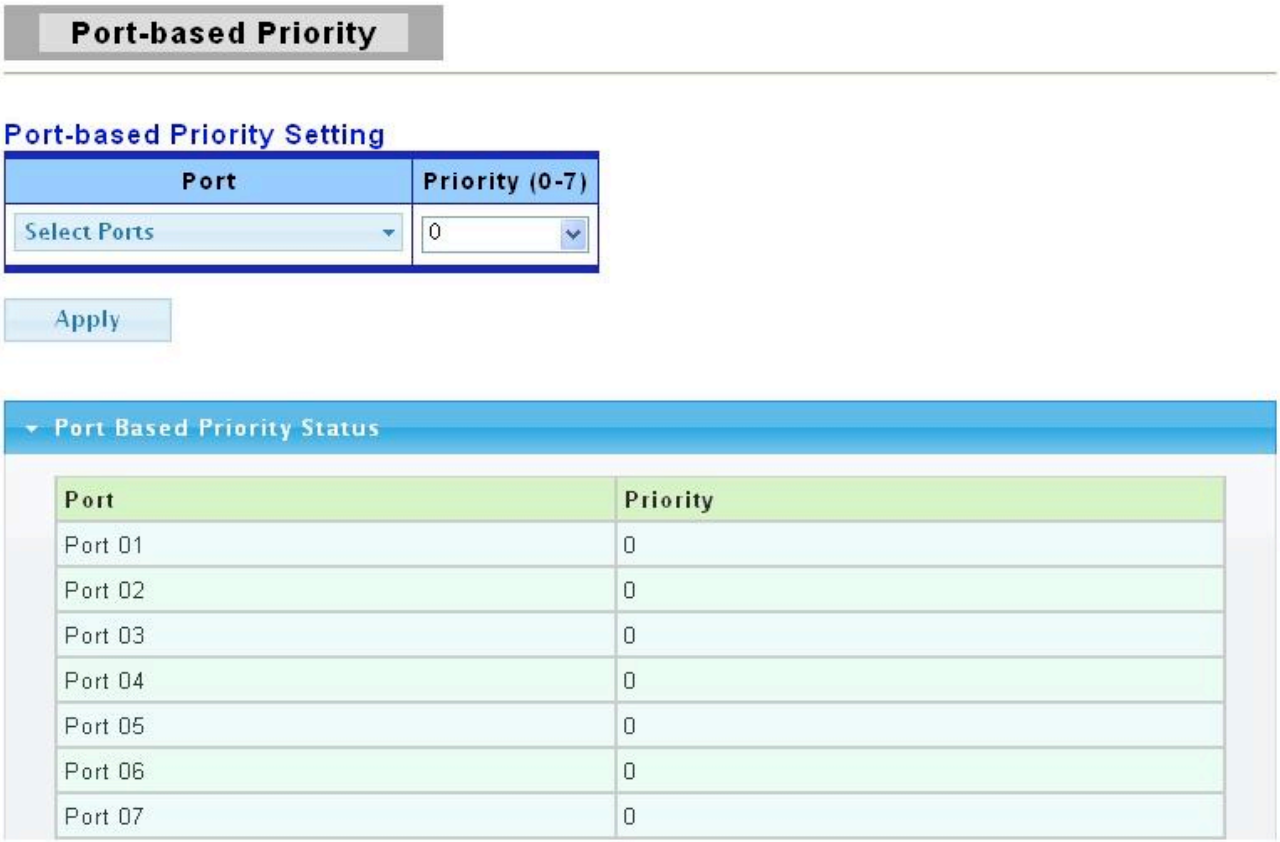
3.6 QoS

Use the QoS pages to configure settings for the switch QoS interface and how the switch connects to a remote server to get services.

3.6.1 Port-based Priority

You can configure the switch to assign an IEEE 802.1p priority to packets based on the ingress (incoming) port of the packet.

Click **QoS > Port-based Priority** in the navigation panel to display the screen shown below.

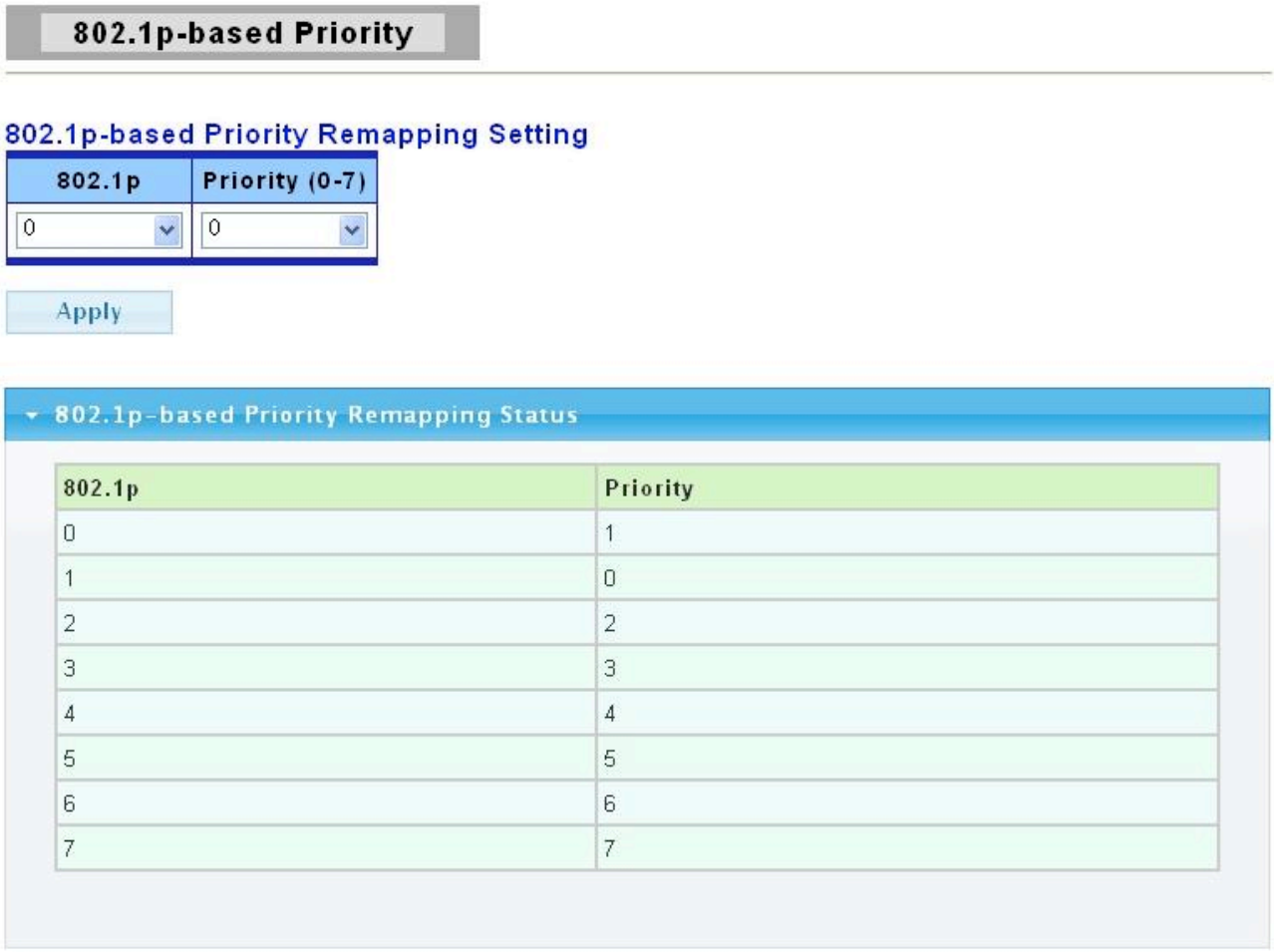


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port	Select the number of the port for which you want to assign IEEE 802.1p priority to incoming frames.
Priority	Select the QoS port-based priority you want to assign to the packets coming into the switch on the ports specified in the port field.
Apply	Click **Apply** to save your changes to the switch.
Port	This field displays the port number.
Priority	This field indicates what IEEE 802.1p priority is assigned to the incoming packets from the port.

3.6.2 802.1p-based Priority

Click **QoS > 802.1p-based Priority** in the navigation panel to display the screen shown below.



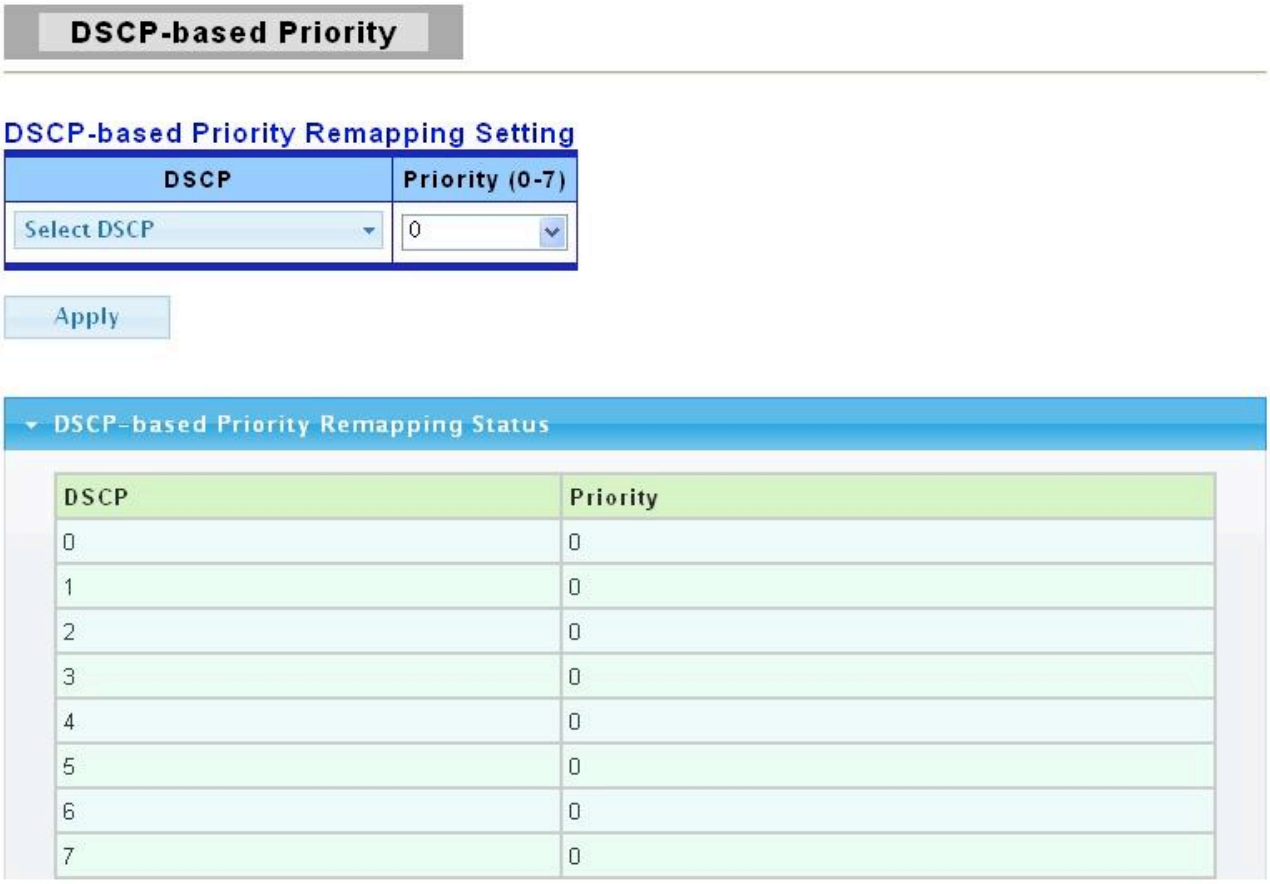
The following table describes the labels in this screen.

LABEL	DESCRIPTION
802.1 p	Select the 802.1p value to mapping to the priority and drop precedence. The 802.1p range is 0 to 7.
Priority	Select the IEEE 802.1p priority you want to assign to the packets coming into the switch on the ports specified in the port field. The priority range is 0 to 7.
Apply	Click **Apply** to save your changes to the switch.
802.1 p	This field displays the 802.1p priority level which you've choosed..
Priority	This field indicates what IEEE 802.1p priority is assigned to the incoming packets from the port.

3.6.3 DSCP - based Priority

You can configure the switch to assign an IEEE 802.1p priority to packets coming into the switch with DSCPs assigned to them.

Click **QoS** > **DSCP-based Priority** to display the screen shown below.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
DSCP	Select the DSCP value for which you want to define a priority value. The DSCP range is 0 to 63.
Priority	Select the priority value that the DSCP is mapped to. The priority range is 0 to 7.
Apply	Click **Apply** to save your changes to the switch.
DSCP	This field displays the DSCP classification identification numbers.
Priority	This field displays the DSCP classification identification number's IEEE 802.1p Priority.

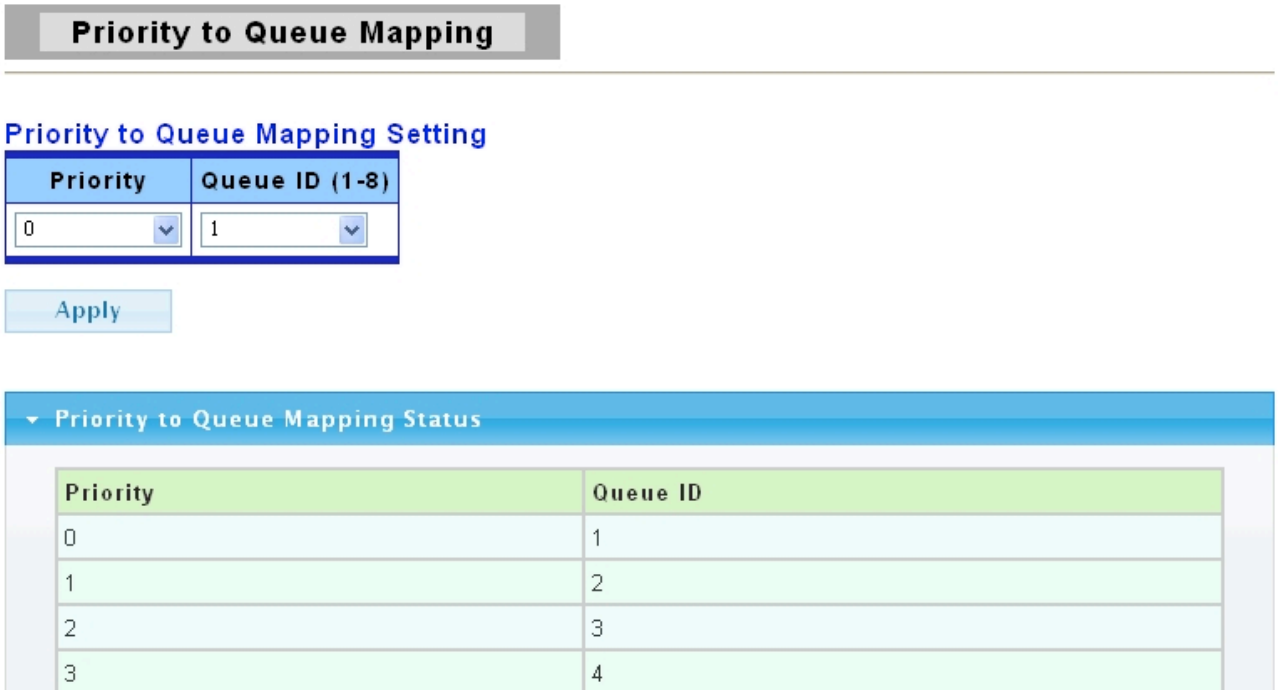
3.6.4 Priority to Queue Mapping

Click **QoS** > **Priority to Queue Mapping** to display the screen as shown next.

IEEE 802.1p defines up to eight separate traffic types by inserting a tag into a MAC-layer frame that contains bits to define the class of service. Frames without an explicit priority tag are given the default priority of the ingress port. Use the next screen to configure the priority level-to-physical-queue mapping.

The Switch has eight physical queues that you can map to the eight priority levels. On the Switch,

traffic assigned to higher-index queues gets through faster while traffic in lower-index queues is dropped if the network is congested.



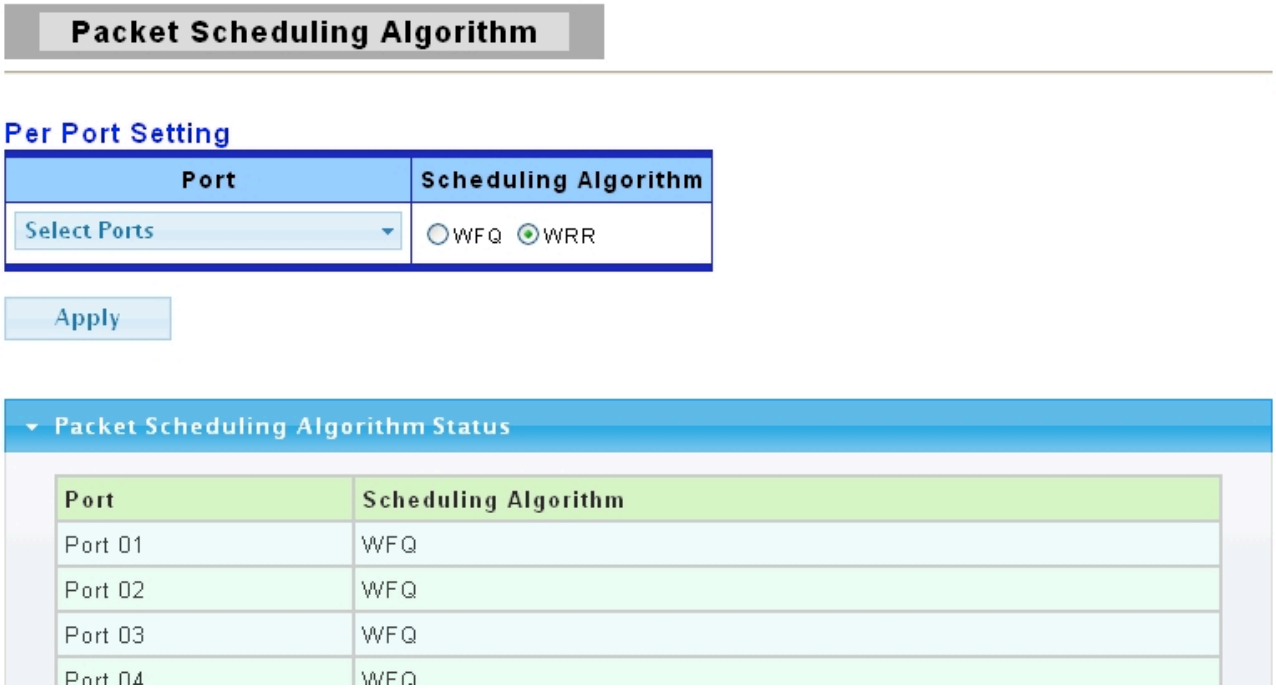
The following table describes the labels in this screen.

LABEL	DESCRIPTION
Priority	Select the priority value to mapping to the Queue ID. The priority range is 0 to 7.
0	Typically used for best-effort traffic.
1	This is typically used for non-critical “background” traffic such as bulk transfers that are allowed but that should not affect other applications and users.
2	This is for “spare” bandwidth.
3	Typically used for “excellent effort” or better than best effort, and would include important business traffic that can tolerate some delay.
4	Typically used for controlled-load, latency-sensitive traffic such as SNA (Systems Network Architecture) transactions.
5	Typically used for video that consumes high bandwidth and is sensitive to jitter.
6	Typically used for voice traffic that is especially sensitive to jitter (jitter is the variations in delay).
7	Typically used for network control traffic such as router configuration messages.
Queue ID	Select the Queue ID for which the Priority should be applied. The Queue ID range is 1 to 8.
Apply	Click Apply to save your changes to the Switch.
Priority	This field displays the priority for each Queue ID.
Queue ID	This field displays the Queue ID.

3.6.5 Packet Scheduling

Click **QoS** > **Packet Scheduling** to display the screen shown below.

Packet Scheduling is used to help solve performance degradation when there is network congestion. Use this screen to configure queuing algorithms for outgoing traffic.

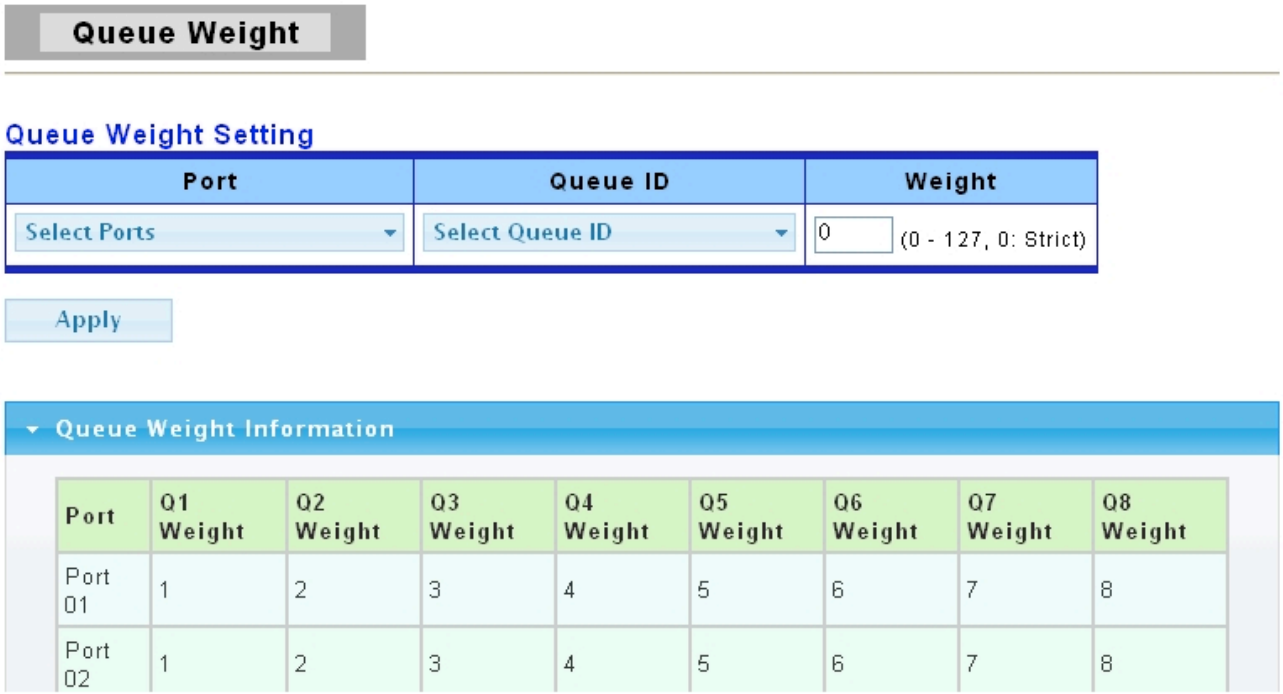


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port	Select the number of the port for which you want to assign IEEE 802.1p priority to incoming frames.
Scheduling Algorithm	Select the algorithm of packet scheduling: · **WFQ:** · **WRR:** Note: Weighted Fair Queuing is used to guarantee each queue's minimum bandwidth based on its bandwidth portion (weight: the number you configure in the weight field). Queues with larger weights get more guaranteed bandwidth than queues with smaller weights. Weighted Round Robin Scheduling services queues on a rotating basis based on their queue weight (the number you configure in the queue weight field). Queues with larger weights get more service than queues with smaller weights.
Apply	Click **Apply** to save your changes to the switch.

3.6.6 Queue Weight Setting

Click **QoS** > **Queue Weight Setting** to display the screen shown below.

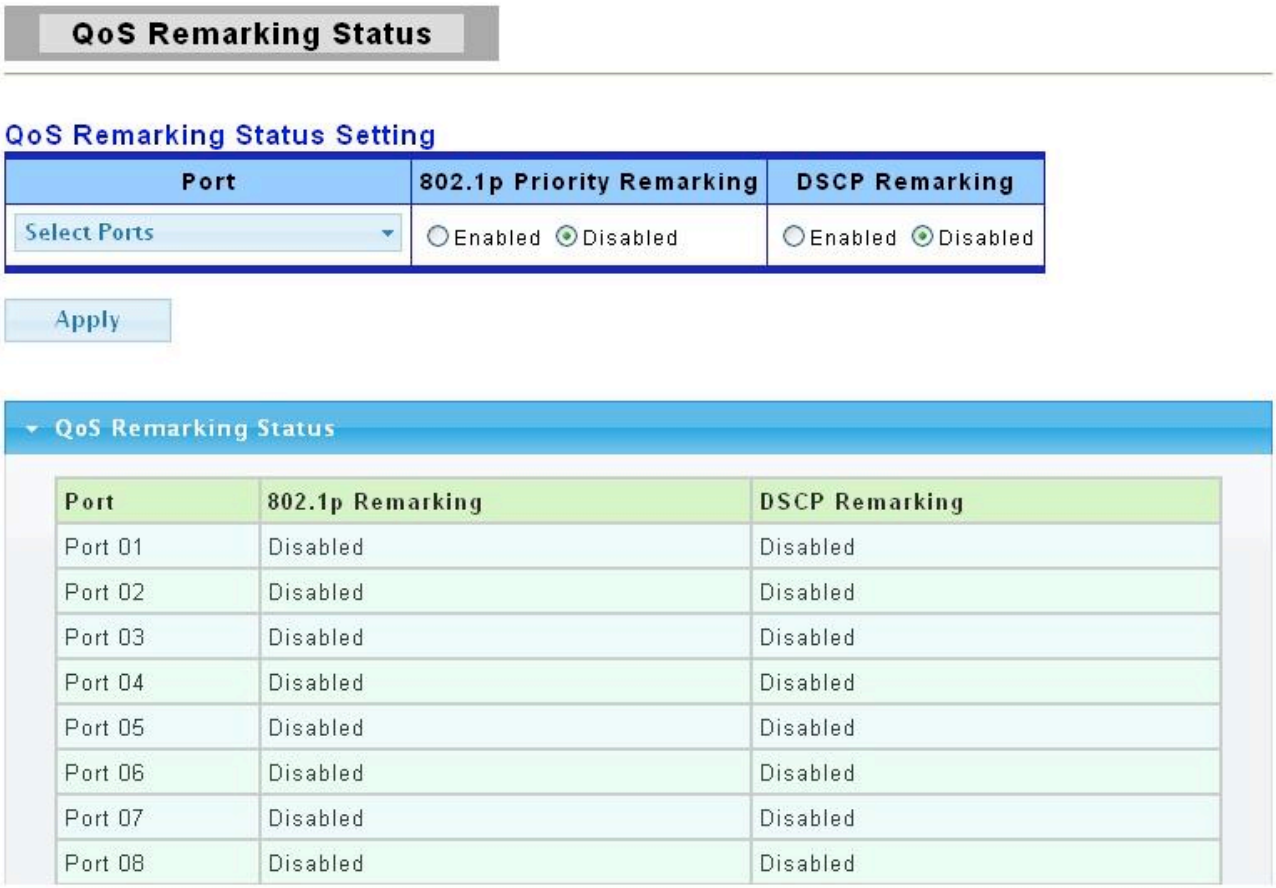


The following table describes the labels in this screen.

LABEL	DESCRIPTION
Port	Select the number of the port for which you want to assign IEEE 802.1p priority to incoming frames.
Queue ID	Select the Queue ID for configuration it's weighted. The Queue ID range is 1 to 8.
Weight	Configure the queue scheduling weight of specified ports. Range is valid as following: · **0:** means the queue is strict mode. · **1-127:** means the queue weight of the scheduling.
Apply	Click **Apply** to save your changes to the switch.
Weight	This field displays the weight of the queue.

3.6.7 Queue Remarking Status

Click **QoS** > **Queue Remarking Status** to display the screen shown below.

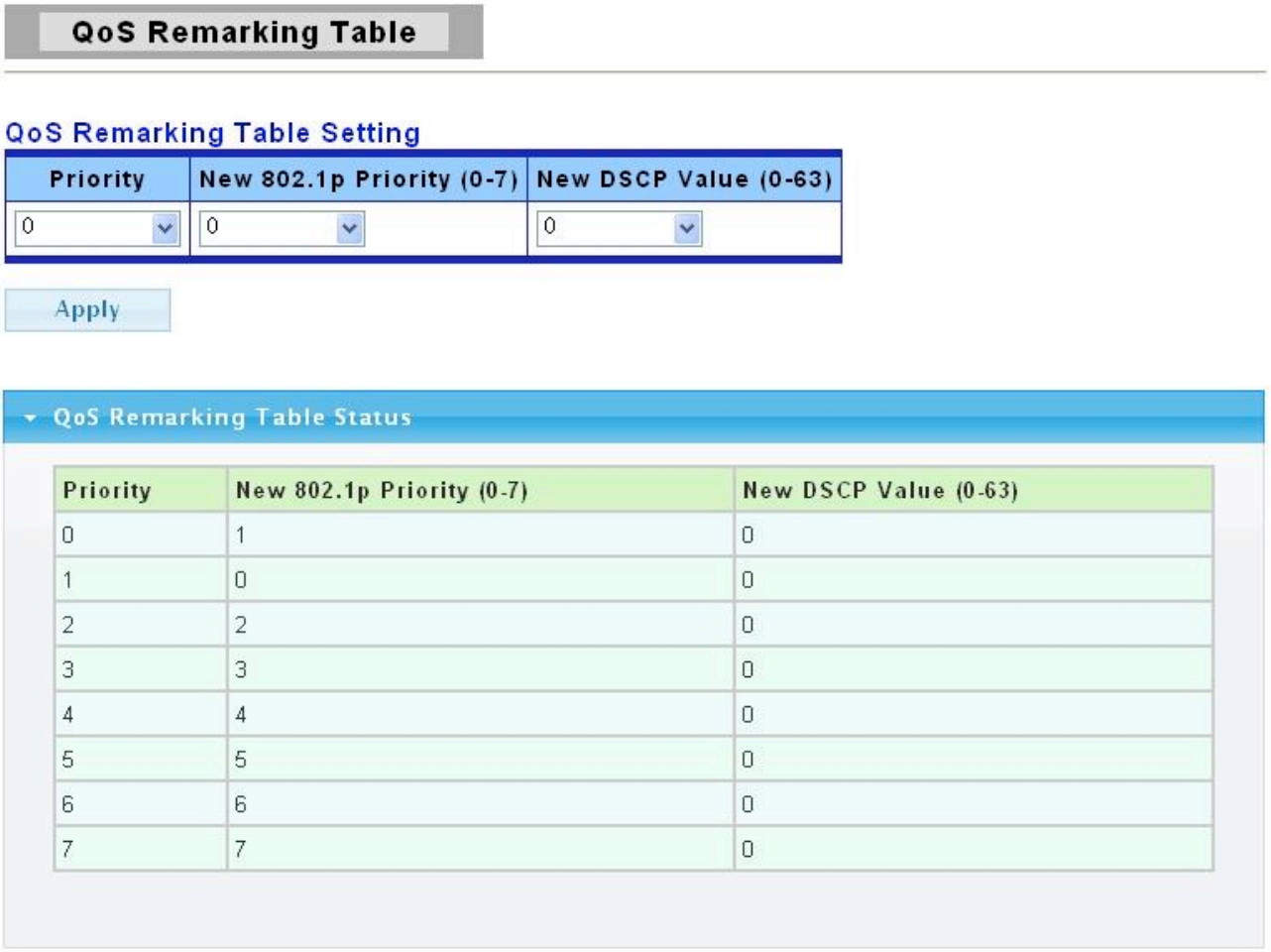


The following table describes the labels on this screen.

LABEL	DESCRIPTION
Port	Select the number of the port for which you want to assign IEEE 802.1p priority to incoming frames.
802.1p Priority Remarking	Click **Enabled** to enable this function on specified ports. Click **Disabled** to disable this function on specified ports.
DSCP Remarking	Click **Enabled** to enable this function on specified ports. Click **Disabled** to disable this function on specified ports.
Apply	Click **Apply** to save your changes to the switch.

3.6.8 Queue Remarking Table

Click **QoS** > **Queue Remarking Table** to display the screen shown below.



The following table describes the labels on this screen.

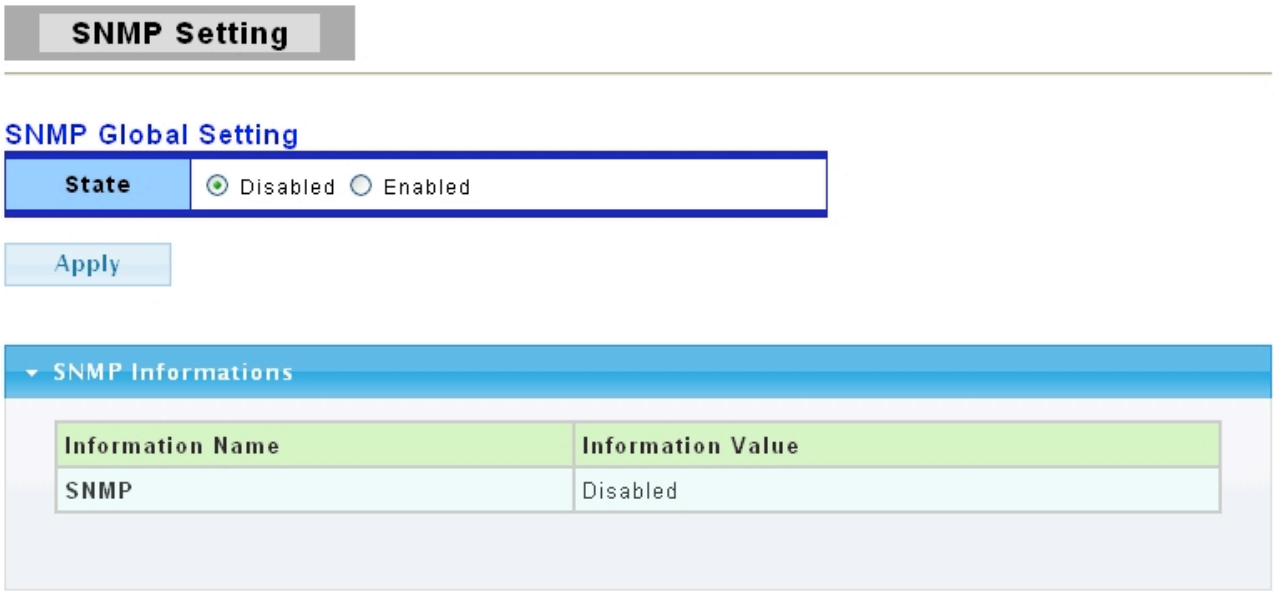
LABEL	DESCRIPTION
Priority	Select the priority value to mapping to new 802.1p, new 802.1ad and DSCP value. The priority range is 0 to 7.
New 802.1p Priority	Remark to the new 802.1p priority that the priority and drop precedence mapped to. The new 802.1p priority is 0 to 7.
New DSCP Value	Remark to the new DSCP priority that the priority and drop precedence mapped to. The new DSCP priority is 0 to 63.
Apply	Click **Apply** to save your changes to the switch.

3.7 Management

3.7.1 SNMP

3.7.1.1 SNMP Setting

Click **Management** > **SNMP** > **SNMP Setting** to display the screen shown below.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
State	SNMP daemon state: Select **Enabled** to activate SNMP daemon. Select **Disabled** to not use SNMP daemon.

3.7.1.2 SNMP Community

Click **Management** > **SNMP** > **SNMP Community** to display the screen shown below.

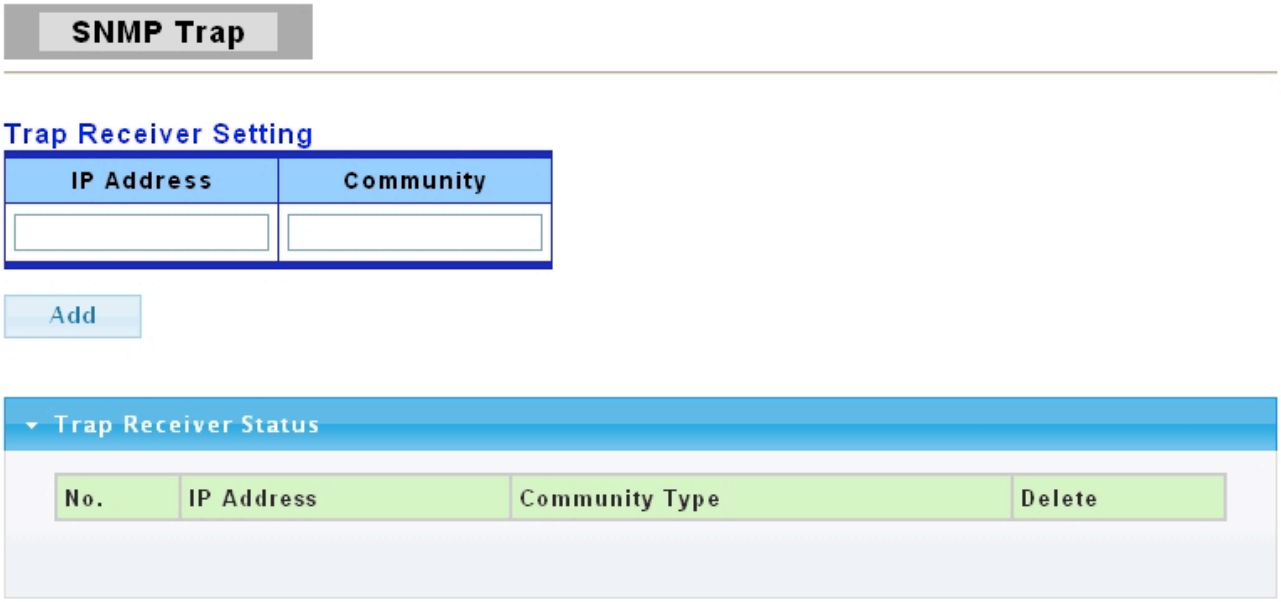
The following table describes the labels on this screen.

LABEL	DESCRIPTION
Community	Enter a Community string. This will act as a password for requests from the management station.
Type	SNMP community type: · **Read-Only:** Read all objects only. It can allow the SNMP manager using this string to collect information from the switch. · **Read-Write:** Read and write all objects. It can allow the SNMP manager using this string to create or edit MIBs (configure settings on the switch).
Add	Click **Add** to add any other community.
No	It displays the port number in the community.
Community	This field displays the community strings.
Access Type	This field displays the community string's type. This will either be read-only or read-write.
Delete	Click **Delete** to remove any selected community strings.

3.7.1.3 SNMP Trap

This page allows the user to add or delete an SNMP trap receiver IP address and community name.

Click **Management** > **SNMP** > **SNMP Trap** to display the screen shown below.



The following table describes the labels on this screen.

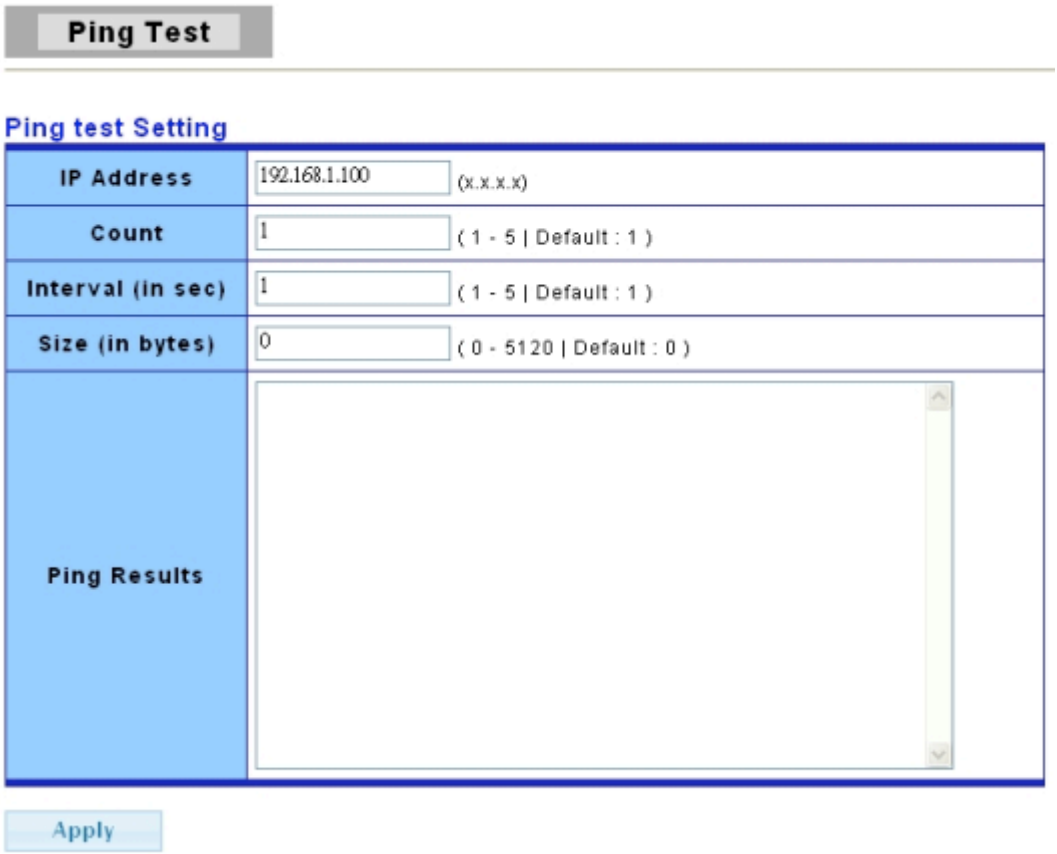
LABEL	DESCRIPTION
IP Address	Enter the IP addresses to send your SNMP traps to.

Community	Enter a Community string, which is the password sent with each trap to the SNMP manager.
Add	Click **Add** to add any trap receiver.
IP Address	This field displays the IP address where the traps from the switch are sent.
Community Type	This field displays the password sent with each trap to the SNMP manager.
Delete	Click **Delete** to remove any selected trap receiver entries.

3.8 Diagnostics

Use the Diagnostics pages to configure settings for the switch diagnostics feature or operating diagnostic utilities.

3.8.1 Ping Test

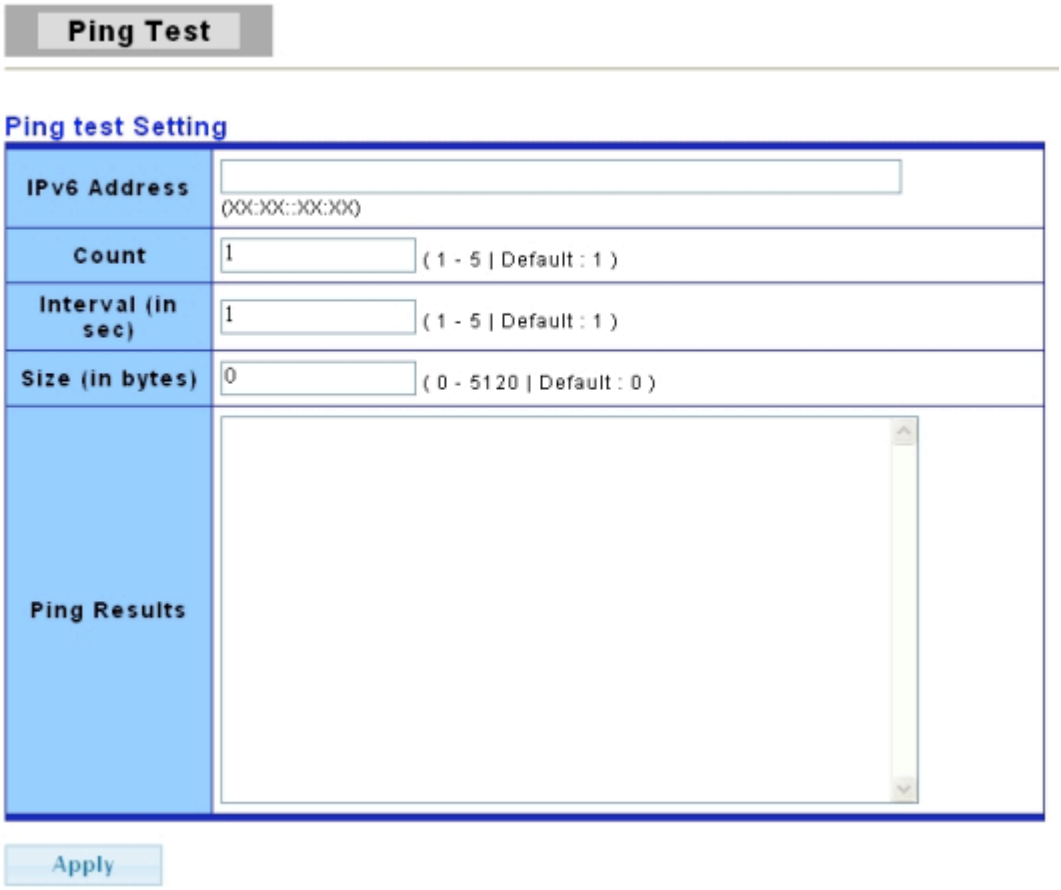


The following table describes the labels on this screen.

LABEL	DESCRIPTION
IP Address	Enter the IP addresses of the test destination.

Count	It displays how many times to send ping request packet. Enter a number between 1 and 5 as the count. The default configuration is 1.
Interval	It displays time interval between each ping request packet. Enter a number between 1 and 5 as the interval. The default configuration is 1.
Size	It displays the size of ping packet. Enter a number between 0 and 5120 as the size. The default configuration is 0.
Ping Results	After a ping is finished, results will show in this field.
Apply	Click **Apply** to save your changes to the switch.

3.8.2 Ping6 Test



The following table describes the labels on this screen.

LABEL	DESCRIPTION
IPv6 Address	Enter the IPv6 addresses of the test destination.
Count	It displays how many times to send ping request packet. Enter a number between 1 and 5 as the count. The default configuration is 1.
Interval	It displays time interval between each ping request packet. Enter a number between 1 and 5 as the interval. The default

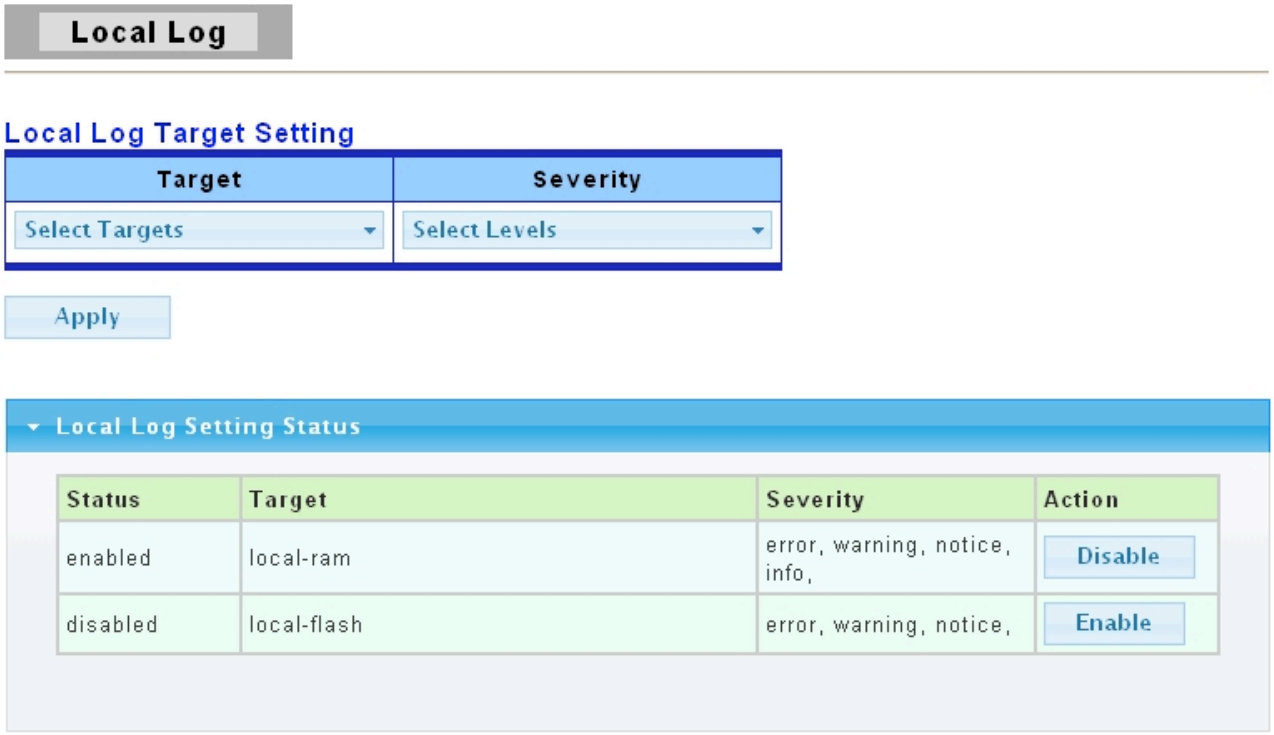
	configuration is 1.
Size	It displays the size of ping packet. Enter a number between 0 and 5120 as the size. The default configuration is 0.
Ping Results	After a ping finished, results will show in this field.
Apply	Click **Apply** to save your changes to the switch.

3.8.3 Log Setting

3.8.3.1 Local Log

Use this screen to display the switch logs.

Click **Diagnostics** > **Log Setting** > **Local Log** to view the screen shown below.



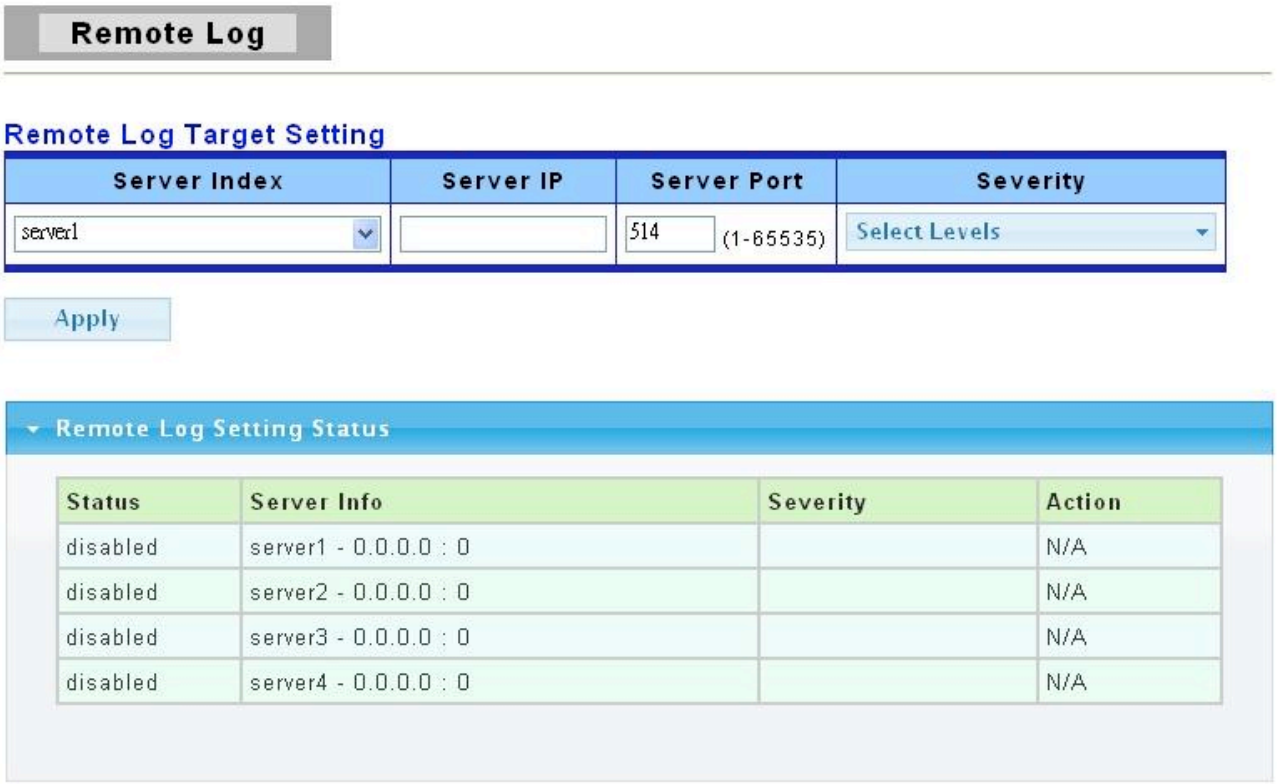
The following table describes the labels on this screen.

LABEL	DESCRIPTION
Target	Select the target to store log message: · **RAM:** store the log messages on the RAM disk. All log messages will disappear after a system reboot. · **Flash:** store the log messages in the Flash memory. Log messages will not disappear after a system reboot.
Severity	Select the severity level(s) of the log entries you want to display. The possible severity levels are: · **Error** - to record system failures, such as events which will cause the switch to malfunction and events such as invalid user input in the Web configurator. · **Warning** - to record non-critical errors on the Switch. The Switch will

	continue to function when warnings are recorded. · **Info -** to record regular system events, such as configuration changes or logins. · **Debug -** to record events that can be helpful for engineering debugging of the switch's function. This field is not recommended for tracking, as it creates many messages not helpful to typical users. · **Notice-** to record errors that need attention.
Apply	Click **Apply** to save your changes to the switch.
Status	It displays the status of local log settings.
Target	It displays the target you've chosen.
Severity	It displays the severity status.
Action	Click **enable** to enable this function. Click **disable** to disable this function.

3.8.3.2 Remote Log

Click **Diagnostics** > **Log Setting** > **Remote Log** to view the screen shown below.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
Server Index	Select the index of the remote log server. System supports four remote log servers. When a server is set and enabled, log messages will send to this server.
Server IP	The IP address of the remote log server.
Server Port	Enter a number between 1 and 65535 as the server port.

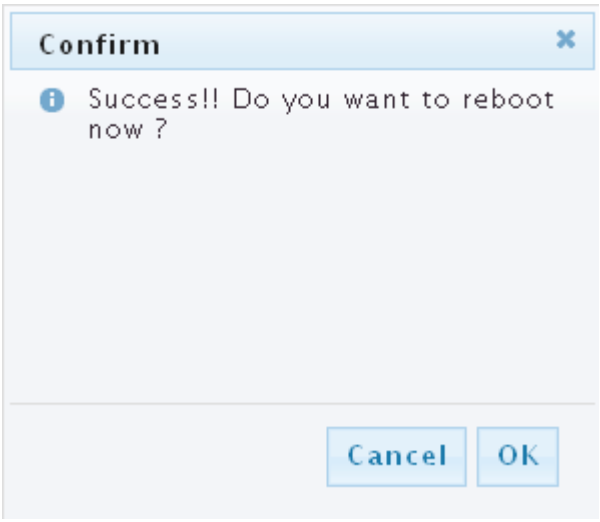
Severity	Select the severity level(s) of the log entries you want to display. The possible severity levels are: · **Error** - to record system failures, such as events that will cause the switch to malfunction and events such as invalid user input in the Web configurator. · **Warning** - to record non-critical errors on the Switch. The Switch will continue to function when warnings are recorded. · **Info** - to record regular system events, such as configuration changes or logins. · **Debug** - to record events that can be helpful for engineering debugging of the switch's function. This field is not recommended for tracking, as it creates many messages not helpful to typical users. · **Notice**- to record errors that need attention.
Apply	Click **Apply** to save your changes to the switch.
Status	It displays the status of local log settings.
Server Information	It displays the server information.
Severity	It displays the severity status.
Action	It displays the action status.

3.8.4 Factory Default

Follow the steps below to restore the switch to the factory defaults.

1. Click **Diagnostics** -> **Factory Default** to view the screen shown below.

2. Click the **Restore** button and the **confirm** interface displays.



3. Click **OK** to restore all switch configurations to the factory defaults and the switch will reboot.

3.8.5 Reboot Switch

Reboot allows you to restart the switch without physically turning the power off.

Follow the steps below to reboot the switch.

1. Click **Diagnostics** > **Reboot Switch** to view the screen shown below.

2. Click the **Reboot** button and the following interface displays.

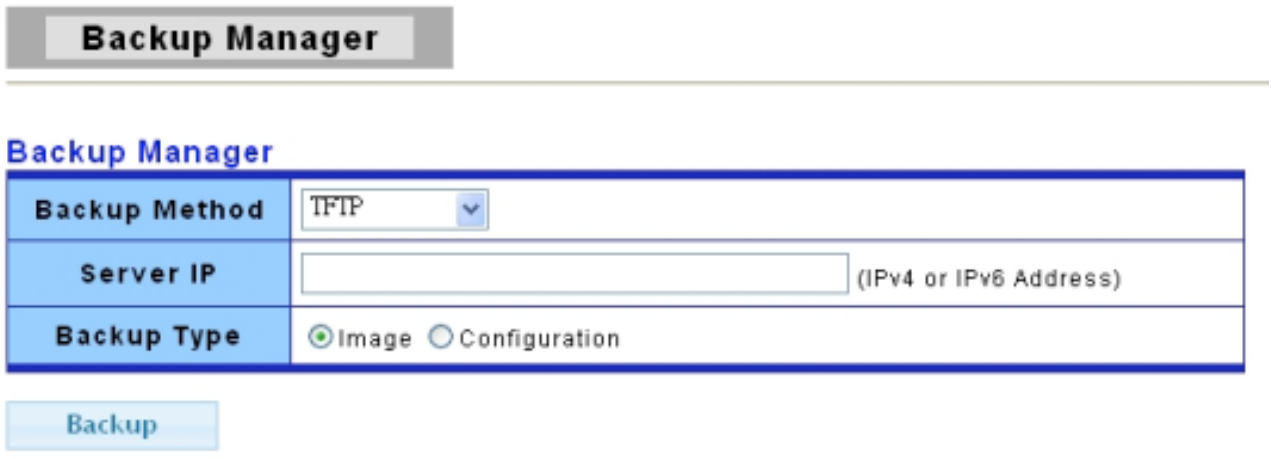
3. When finished, the switch will have been restarted.

3.9 Maintenance

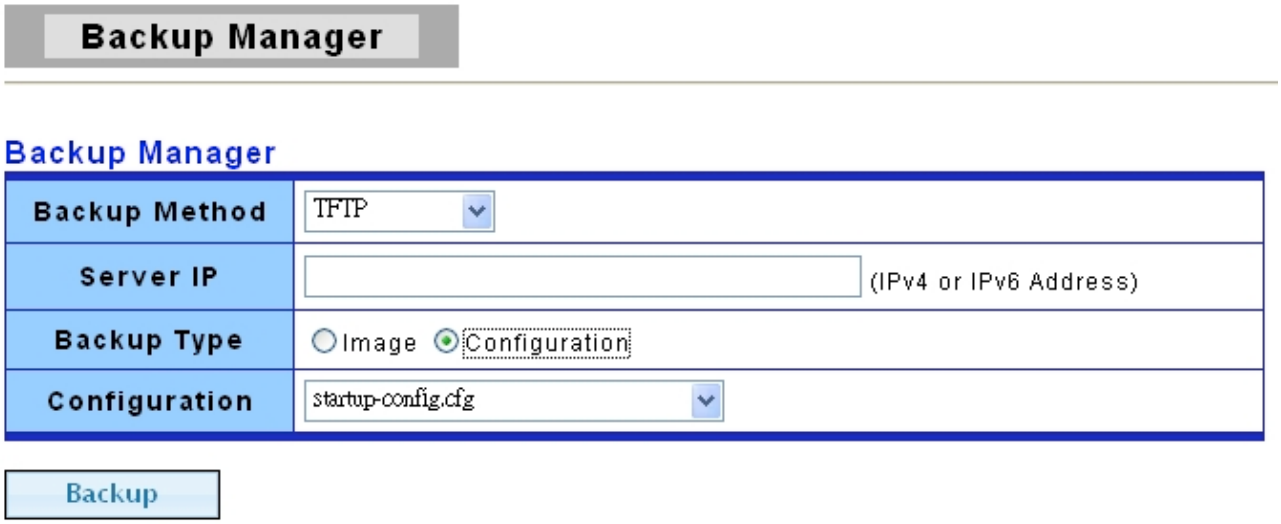
3.9.1 Backup Manager

This page allows the user to back up the firmware image or configuration file on the switch to a remote TFTP server or host file system through the HTTP protocol.

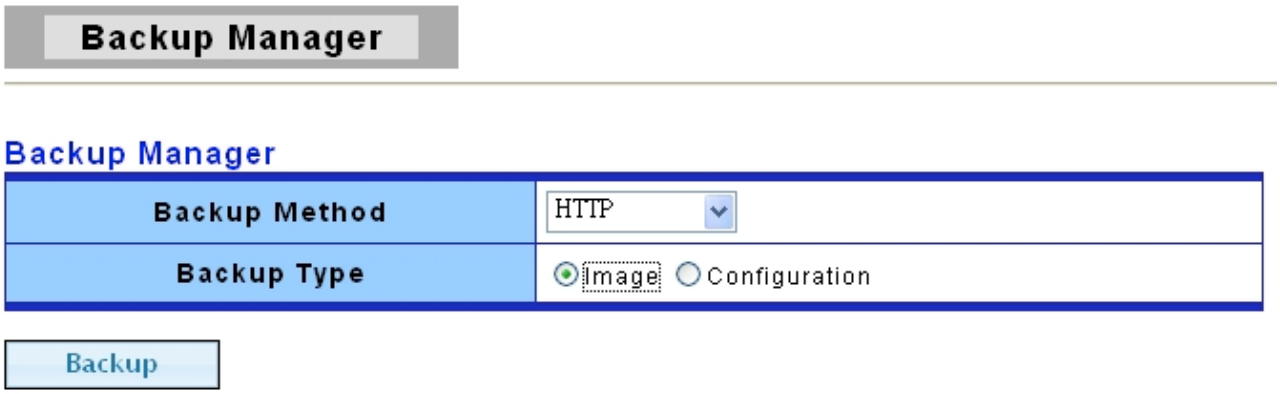
Click **Maintenance** > **Backup Manager** to view the screen shown below.



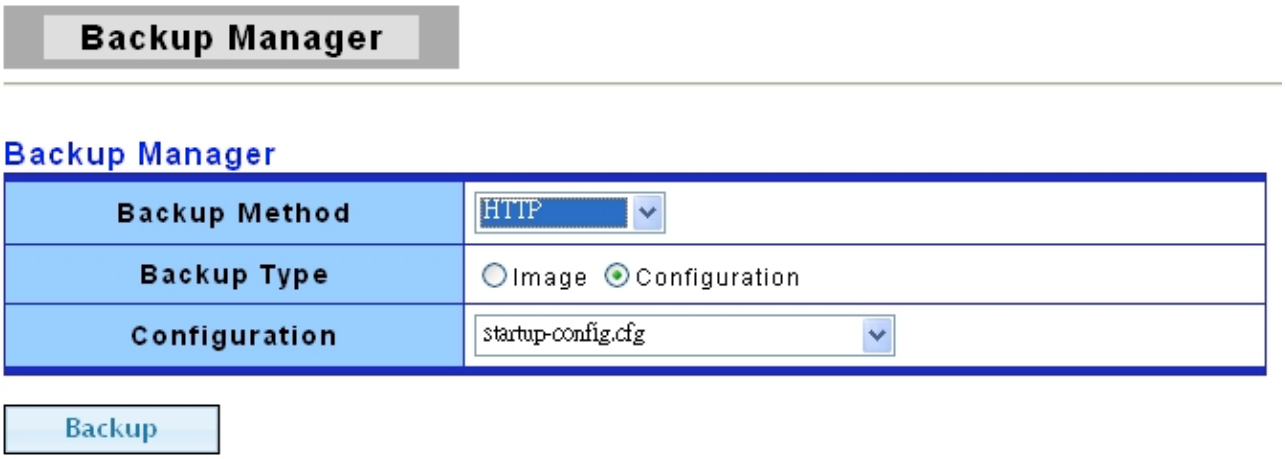
Backup Image with TFTP Page



Backup Config with TFTP Page



Backup Image with HTTP Page



Backup Config with HTTP Page

The following table describes the labels on this screen.

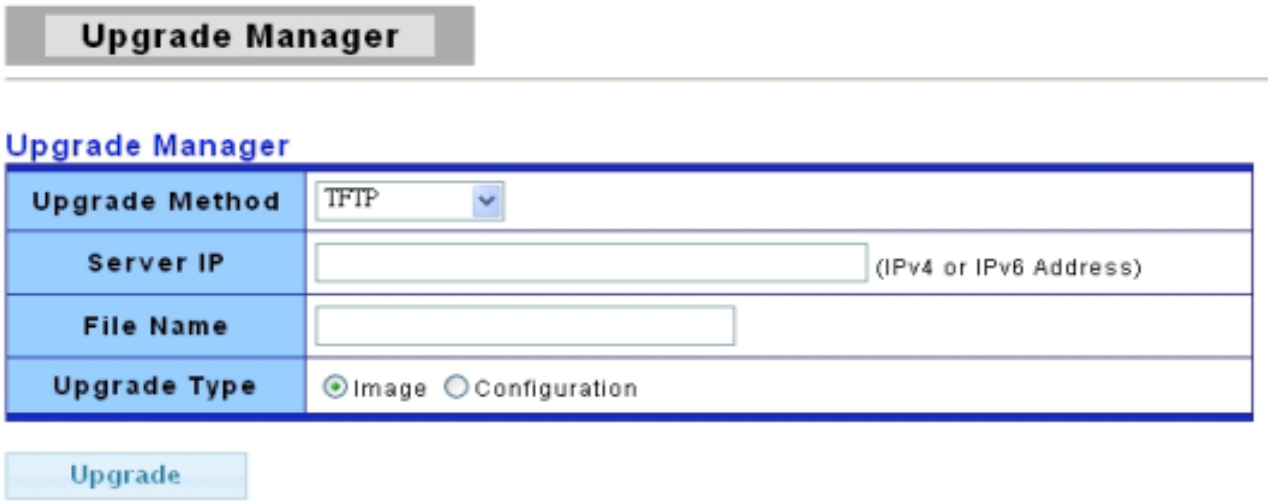
LABEL	DESCRIPTION
Backup	Select the backup method:

Method	· **TFTP:** Use TFTP to back up. · **HTTP:** Use HTTP to back up.
Server IP	IP address of the TFTP server. If the TFTP backup method is selected, the IP address of the TFTP server must be assigned.
Backup Type	Select backup type: · **Image:** Firmware image of current system. · **Configuration:** Configuration file.
Configuration	If the Configuration backup type is selected, one of the configuration files in the current system can be selected for backup.
Backup	Click **Backup** to save the current switch configuration to the local address specified.

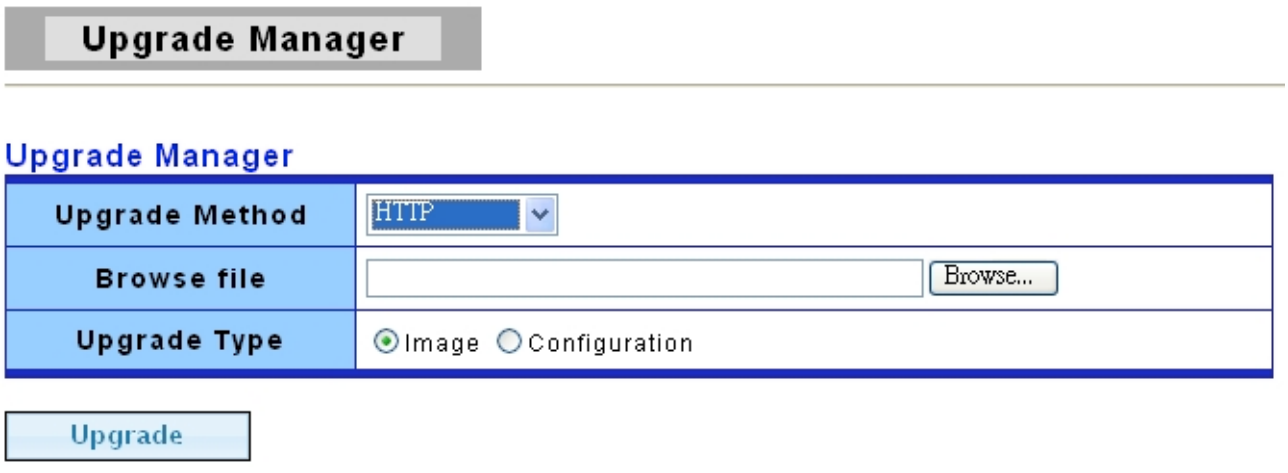
3.9.2 Upgrade Manager

This page allows the user to upgrade a new firmware image or configuration file to the switch from a remote TFTP server or a select file from the Web browser.

Click **Maintenance** > **Upgrade Manager** to view the screen shown below.



Upgrade with TFTP Page



Upgrade with HTTP Page

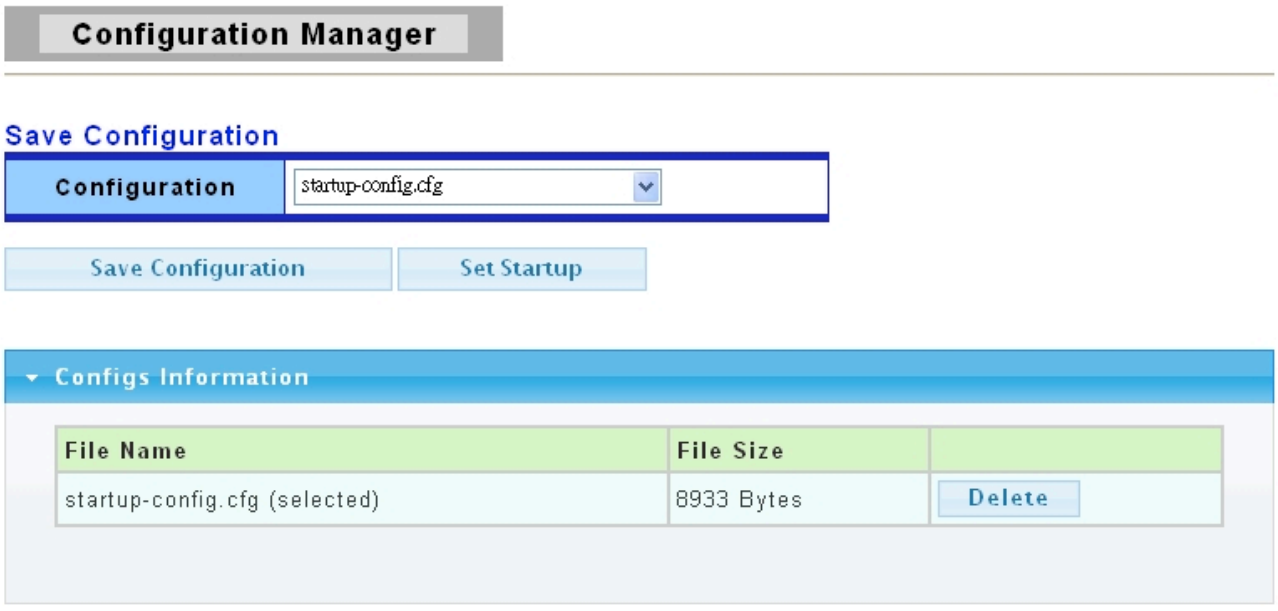
The following table describes the labels on this screen.

LABEL	DESCRIPTION
Upgrade Method	Select the upgrade method: · **TFTP:** Use TFTP to upgrade. · **HTTP:** Use HTTP to upgrade.
Server IP	IP address of the TFTP server. If the TFTP upgrade method is selected, the IP address of the TFTP server must be assigned.
File Name	Firmware image or configuration file name on remote TFTP server. If the TFTP upgrade method is selected, the file name must be specified.
Browse File	If the HTTP upgrade method is selected, the browse file field allows you to select any file on the host operating system.
Upgrade Type	Select upgrade type: · **Image:** Firmware image of current system. · **Configuration:** Configuration file.
Upgrade	Click **Upgrade** to update the file specified above and install the new firmware.

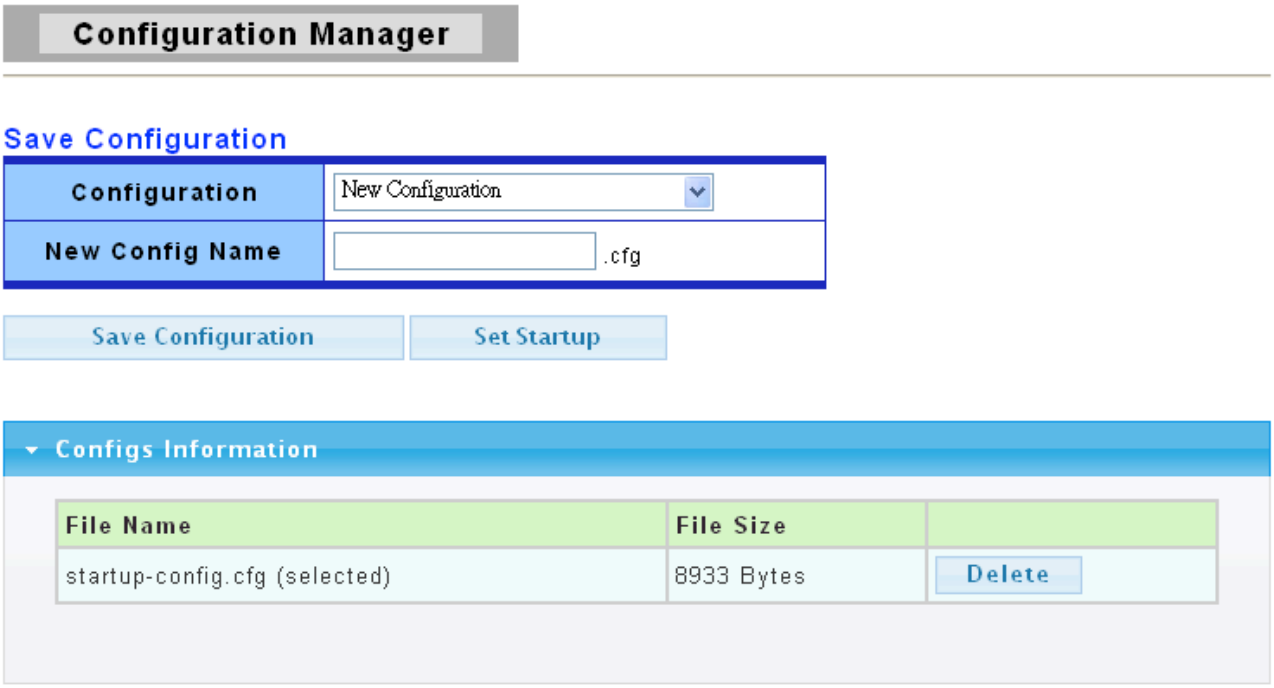
3.9.3 Configuration Manager

This page allows the user to save running configurations to any file specified by pushing the “Save Configuration” button. Click “Set Startup” to select any existing configuration file as the startup configuration. The “Delete” button allows the user to delete the selected configuration file.

Click **Maintenance** > **Configuration Manager** to view the screen shown below.



Configuration Manager Page



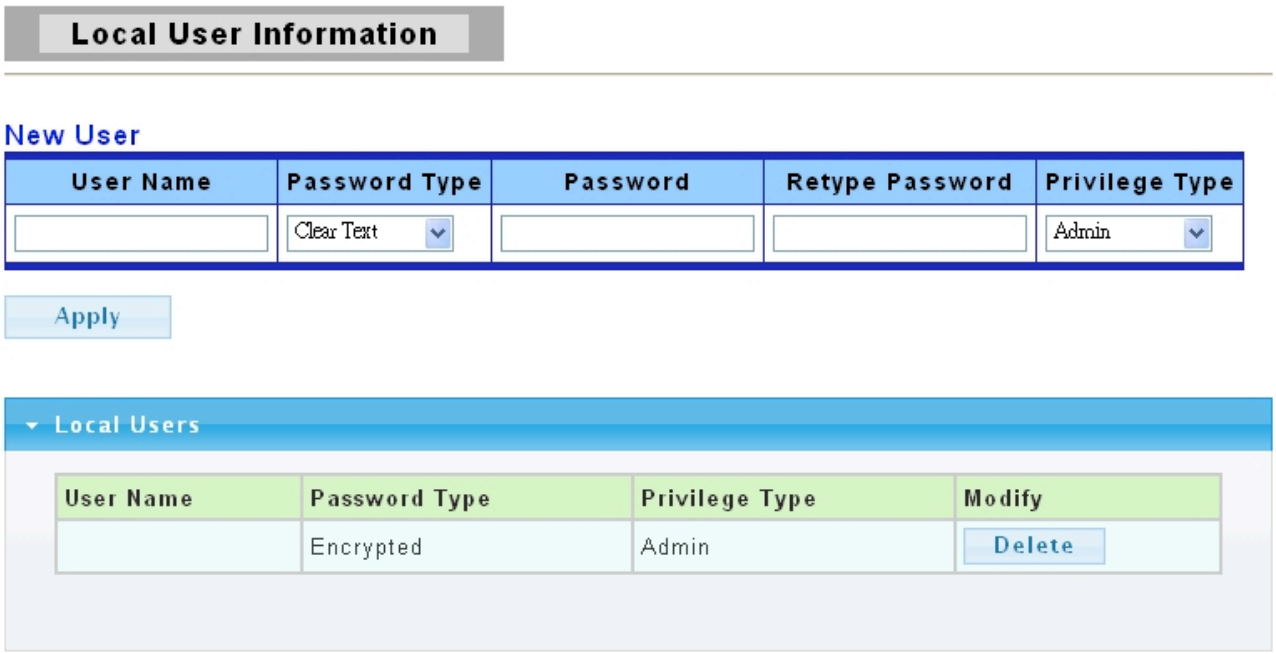
Configuration Manager with new file name Page

LABEL	DESCRIPTION
Configuration	You have two choices: **startup-config.cfg** and **New Configuration**
New Config Name	Configuration file name. Our system will save it with a sub-file name .cfg automatically.
Save Configuration	Click **Save Configuration** to save running configurations to any file the user specified.
Set Startup	Click **Set startup** to select any existing configuration file as the startup configuration.
File Name	It displays the name of the file.
File Size	It displays the size of the file.
Delete	Click **Delete** to delete the selected configuration file.

3.9.4 Account Manager

This page allows the user to add or delete switch local user database for authenticating.

Click **Maintenance** > **Account Manager** in the navigation panel to display the screen shown below.



The following table describes the labels on this screen.

LABEL	DESCRIPTION
User name	Enter your user name for new account.
Password Type	Select password type for new account: · **Clear Text:** Password without encryption. · **Encrypted:** Password with encryption. · **No Password:** No password for new account.
Password	If the password type is other than “No Password,” the password must be specified.
Retype Password	Retype the password to make sure the password is exactly what you typed before in the “Password” field.
Privilege Type	Select a privilege level for new account: · **Admin:** Allow to make changes in switch settings. · **User:** See switch settings only. Do not allow changes.
Apply	Click **Apply** to save your changes to the switch.
Modify	Click **Delete** to modify any configuration.

3.9.5 Enable Password

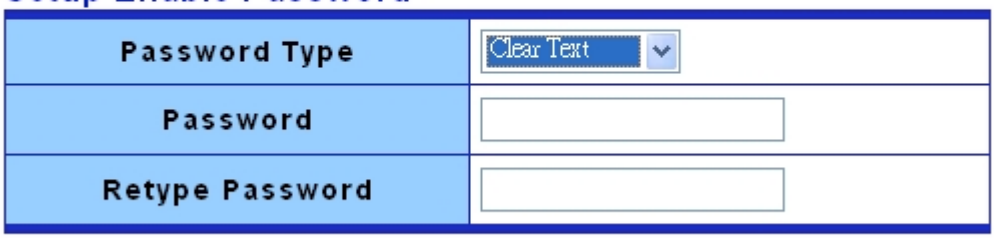
This page allows the user to modify the enable password. In the command line interface, the user can usethe “enable” command to change the privilege level to “Admin.” After the “enable” command is issued, the user needs to type the enable password to change the privilege level.

Click **Maintenance** > **Enable Password** in the navigation panel to display the screen shown below.

Note: It is highly recommended that you change the default password.

Admin Enable Password

Setup Enable Password



The following table describes the labels on this screen.

LABEL	DESCRIPTION
Password Type	Select password type for the enable password function: · **Clear Text:** Password without encryption. · **Encrypted:** Password with encryption.
Password	Enter your new system password.
Retype Password	Retype the password to make sure the password is exactly what you typed before in the “Password” field.
Apply	Click **Apply** to save your changes to the switch.

Specifications

Standards

• IEEE 802.1d (Spanning Tree Protocol)
• IEEE 802.1p (Traffic Prioritization)
• IEEE 802.1q (VLAN Tagging)
• IEEE 802.1s (Spanning Tree Protocol (MSTP))
• IEEE 802.3ad (Link Aggregation)
• IEEE 802.3 (10Base-T Ethernet)
• IEEE 802.3ab (Twisted Pair Gigabit Ethernet)
• IEEE 802.3ad (Link Aggregation Control Protocol LACP)
• IEEE 802.3az (Energy Efficient Ethernet EEE)
• IEEE 802.3u (100Base-TX Fast Ethernet)
• IEEE 802.3x (Flow Control, for full duplex mode)
• SNMPv1/v2/v3 (Simple Network Management Protocol)

General

• Media support:
- 10Base-T Cat3, 4, 5 UTP/STP RJ45
- 100Base-TX Cat5 UTP/STP RJ45
- 1000Base-T Cat5e UTP/STP RJ45
• Packet filter/forwarding rate:
- 1,488,000 pps (1000 Mbps)
- 148,800 pps (100 Mbps)
- 14,880 pps (10 Mbps)
• MAC address table: 16k
• Buffer memory: 448 kBytes
• Backplane speed / switch fabric: 40 Gbps for 16-port; 56 Gbps for 24-port
• Switch architecture: store and forward
• Configuration options:
- Port link speed: 10 Mbps, 100 Mbps, 1000 Mbps or auto-negotiation
- Flow control on/off per port
- VLAN, S-VLAN
- Rate limiting (ingress rate and egress rate)
- Rate limiting: policy-based or port-based bandwidth control, 16 kbps steps up to 1 Gbps maximum
- Port Mirroring
- ACL (Access Control List)
- Port Aggregation/LACP: 8 groups

- Broadcast Storm configuration with broadcast rate, multicast rate, and flooded unicast rate
- IGMP Snooping
- Event Logging / Remote Logging
- Quality of Service (QoS): port-based, 802.1p or DSCP
- Integrated ICMP Ping client sends ping requests to other network nodes
- SNMPv1/v2/v3 (Simple Network Management Protocol)
- LAN settings (IP address, gateway, etc.)

• Certifications: FCC Class A, CE

LEDs

• Power

• Link/activity

Power

• Input: 100 – 240 V AC, 50 – 60 Hz

• Power consumption: 30 watts (maximum)

Environmental

• Metal housing

• Dimensions: 440 (W) x 130 (L) x 44 (H) mm (17.3 x 5.1 x 1.7 in.)

• Weight: 2.9 kg (6.4 lbs.)

• Operating temperature: 0 – 40°C (32 – 104°F)

• Operating humidity: 10 – 90% RH, non-condensing

• Storage temperature: -40 – 70°C (-40 – 158°F)

Package Contents

• Web-Managed Gigabit Ethernet Switch with 4 SFP Ports

• Power cable

• 19" rackmount brackets

• User manual